An Army at War

Change in the Midst of Conflict

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John J. McGrath
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An Army at War:
Change in the Midst of Conflict

John J. McGrath
General Editor

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Foreword

These proceedings are the third volume to be published in a series generated by the annual military history symposium sponsored by the US Army Training and Doctrine Command (TRADOC). Each year, these conferences bring together both military and civilian historians, as well as formal and informal students of military history, literally from around the world, for the purposes of presenting ideas and points of view on current military issues from a historical perspective. This year's symposium, hosted by the Combat Studies Institute, was held 2-4 August 2005 at Fort Leavenworth, Kansas.

The 2005 symposium's theme was An Army at War: Change in the Midst of Conflict. As this title indicates, presentations at this event focused on how an Army changes while concurrently fighting a war. Changing an Army in peacetime is difficult enough. Transformation can include changes to the personnel system, the turning in old and the fielding of new equipment, new training requirements, and at times, learning an entirely new way of viewing the enemy and the battle space in which operations will occur. Practical and cultural changes in an Army always cause tremendous turbulence and angst, both inside and outside of the Army. The United States Army and the nation are facing these challenges today, and they must make these changes not in a peacetime environment, but while fighting the Global War on Terrorism (GWOT). The panelists presented a series of topics addressing the current transformation challenge that ranged from maneuver warfare, to asymmetrical operations, to insurgencies, to logistics, to unit manning, to doctrine and many others.

This third collection of proceedings contains the papers and presentations of participating panelists. It also includes transcriptions of the question and answer periods following the panelists' presentations. These materials can also be found at http://usacac.army.mil/cac/csi/conference05.asp. The symposium program can be found at Appendix A of this volume.

These annual symposiums are proving to be a key annual event for those students and masters of military history who believe that the past has something useful to provide in the analysis of current military problems. The attendees have uniformly found them to be of great benefit. We intend for the readers of this and past volumes to find the experience equally useful. *The Past is Prologue.*

Timothy R. Reese
Colonel, Armor
Director, Combat Studies Institute

Introduction

The third annual military history symposium sponsored by the US Army Training and Doctrine Command and hosted by the Combined Arms Center's Combat Studies Institute was a successful gathering of some of the best thinkers on the subject of transforming armies during wartime. Scholars, Soldiers, and students of military history and the military arts met at Fort Leavenworth, Kansas, to analyze and discuss the symposium's theme, "An Army at War: Change in the Midst of Conflict." This theme was chosen because the United States Army is, in fact, undergoing the most significant transformation in decades, while simultaneously contributing substantially to the Global War on Terrorism.

This collection is the immediate result of the symposium. I encourage you to read and analyze each paper and the transcription of the follow-on question and answer periods. You will find them thought-provoking in many ways, especially for those who are actively engaged in the Army's on-going transformation process. Of course, the long-term results of the symposium will be determined by how the ideas and insights expressed by the participants are used to inform the overall transformation process. I believe that these insights will be of great value to those charged with the task of transforming our Army in wartime and I hope that you find them useful.

David H. Petraeus
Lieutenant General, US Army
Commanding

Change During War: Contemplating the Future While Fighting in the Present

Major General (Retired) Robert H. Scales

Thank you very much. I'm very uneasy on a podium, so if you don't mind, I'll stand out here in the middle of the crowd and talk. First of all, let me thank Tim. Thank you very much for allowing me to do this, for two reasons. It's a great opportunity to see old and dear friends, whom I've known for many, many years, fellow historians. It's also an opportunity to get a chance to talk to the SAMS (School of Advanced Military Studies) crowd, and when I was up here last time, you guys were on a trip; I didn't get a chance to chat with you.

But I think more importantly, this opportunity has forced me to slow down a little bit, and think about the subject. I was going to offer you great, sage advice about what this war means to the future—I've got a few words about that later—but I think more important for Tranining and Doctrine Command (TRADOC) is to look at how the experience of war affects the way soldiers think about war in the future. Not so much from an insider's perspective—I'll give you a little of that later. I want to talk to you about the track record of armies, in analyzing or synthesizing events in wartime, and how good or badly we've done it in the past. Then perhaps some insights—first of all, some cautionary tales about how ingesting the lessons of the war generally fail, and then some suggestions to you in this audience, since you'll be carrying on this particular baton as we move forward, into how you might not fall into the trap of making the mistakes that armies have made in the past.

Now, it's a very dangerous thing for me to do, for two reasons. Number one, it's the first time I've ever given this talk. I've spent a lot of time thinking about it, so what I'm going to give you is not a history lesson; I'm going to give you a synthesis. I'm going to give you some reflective thoughts—I'm going to sweep from World War I, all the way up to the present, and cast a bit into the future.

Look at the three-oval chart (**Figure 1**). It talks about the process of evolving thought, and how the whole thing plays out. On the left is today; on the right is tomorrow. It really breaks itself down into what we euphemistically call the three-oval chart. Really, the process begins on the right and moves to the left.

Change begins with ideas, and vision—it's an imaging process; it's an out-of-body experience. It requires a set of intellectual muscles different than you guys in the back of the room have been exercising all of your lives. It requires you to place yourself in a distant place—an altered state—and imagine what might be, rather than what just happened. It's the quintessential embodiment of the differ-

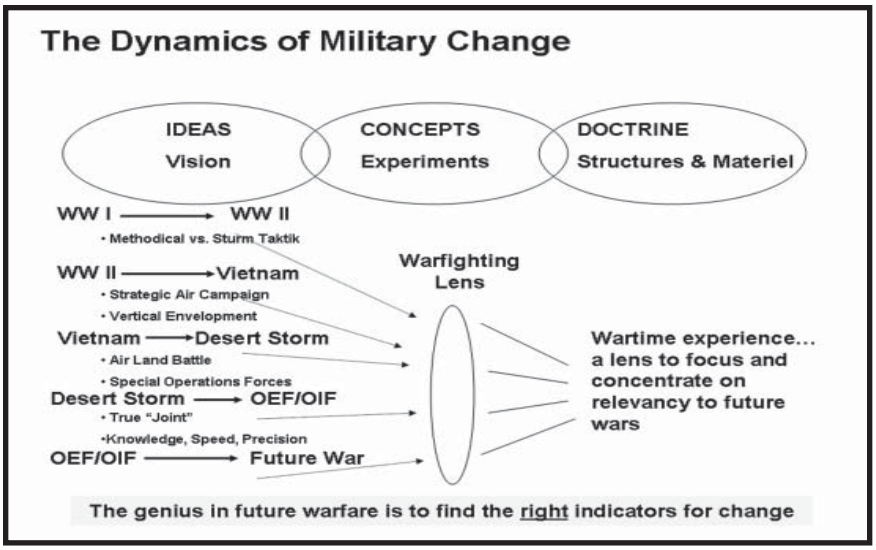


Figure 1

entiation between direct and indirect leadership. Those who are good at indirect leadership, and those who know how to think in time, and those who know how to imagine combat as it might be, or conditions on the battlefield as they probably will happen versus what just happened, is really the essence of graduating from being an amateur into a professional, a tactician into a strategist, and forward-gazing—or future-thinking—is only part of that.

The middle oval is probably the one that's the most difficult, and I would argue that's sort of where we are right now. This is the concepts and experiments phase, where you translate vision by ingesting specific bits of data, to be able to form a concept of how wars will be fought. When I say experiments, there are two pieces of input that are essential. Number one is history—what's happened in the past; and number two are experiments—or empirical events that you create artificially, that seek to replicate the future.

It's almost like that proverbial cone of uncertainty. You know, you look in the rearview mirror, and you see a series of way points and signposts, so you know generally where the road leads you into the future. Then you try to imagination a continuation of those signposts into the future, by looking at the evidence, principally through experimentations and war games, to make sure that the course that you've taken on the road will carry you into the future.

The embodiment of all that, of course, is doctrine and the idea of structures—what we do with what we have now. Since we're a doctrine-based army,

and since doctrine is the essence of what we do, then that's how we make today perfect—or how we make yesterday perfect, some would argue.

So the object of looking at the historical record is not to try to fight the next war like the last—that's what we're oftentimes accused of. But what I find interesting is that in virtually every war there are indicators, signposts, bits of evidence that, if you collect them together, and apply the process of reasoning, you can pick out those sinews, those signposts, those bits and pieces of evidence that will place you on the right path into the future. If you've done a good enough job, then experiments and war games merely seek to confirm what you've learned from your study of history.

The problem, of course, is that armies almost always get it wrong—we screw this up really badly. What I'm going to tell you is a bad news tale—or perhaps to be more optimistic, a cautionary tale—of how we get it wrong. I'm going to explain to you the indicators of getting it wrong, and then I'm going to try to offer you some suggestions, as you look to the future, about how to get it right. Michael Howard said, "The object of future-gazing is not to get it right, but to keep from getting it terribly wrong." We'll never get it exactly right.

What happens in wartime is that the three ovals are compressed. You know, the old saying, "In peacetime, I had all the time in the world and no money; in wartime, I've got all the money in the world and no time." Well, time is truly compressed in wartime, because soldiers are dying, the fate of the nation is often at stake, and so the entire society begins to reflect on what just happened. But there's a danger in that, and let me give you some historical evidence to point that out.

Of course, the one that everybody throws out is the post-World War I period. It's the classic story of the old tension between the Methodical Battle and Storm Tactic, or the beginnings of Blitzkrieg. I did my doctoral dissertation on this period of history, and what I find particularly interesting is the seductive effect of what just happened. As a young major, or a young captain when I wrote my dissertation, I found myself sort of seduced by the literature—it was very interesting.

I knew what the hell happened in World War II. But when you go back and look at the documents, when you read the primary materials, particularly from European armies, you're almost seduced into believing that the French had it right. The evidence is there. Then, when you template the French ideas of the Methodical Battle against American culture, what you come away with is not criticism of how the Army failed in the interwar years to adapt to mechanized warfare, but what's most profound, to me at least, is how we broke free of the clutch of the French, when French culture, and the conditions under which the French fought

in World War I were very much similar to ours, not only in terms of shared experience, but in terms of national policy and diplomacy, and the very culture of the two armies.

So, on the one hand, you have what just happened—the French understanding that we must fight the next war by reducing the casualties, by leveraging our inferior manpower, by using firepower as the substitute for manpower—any of this sound familiar to you? The Germans, on the other hand, having lost the war, used the Mihiel offensive in April-May 1918 to say, "Very interesting. I think if we can just restore mobility to the battlefield—bypass the enemy's strong points, bypass his extremities, and strike at his brain, by exploiting two technologies, the internal combustion engine and the wireless radio, then perhaps we don't need to worry about a methodical battle."

But what I find interesting is a couple of things: Why did the French fail, and why did the Germans succeed? It all had to do with culture—the culture of the institution and the way the institution looked at what just happened. The French preconceptions won. Victory has a very seductive effect on armies; it reinforces the stereotype. Secondly, you had a French Army that came away from just one battlefield, and that was the Western Front.

So you had a sort of homogenist's view of how a war should be fought, since virtually everyone in the French Army shared the same experience. Germans, on the other hand, lost. And in an extraordinary event, beginning in the spring of 1919, right in the middle of the Spartacist Revolt in Berlin, von Seeckt literally took about a third of the German Army out of the line, and had them write 900 papers on future warfare and the impact of war on how the Reichswehr might be reconstituted in the future. What was interesting is the Germans brought in two cultures—the Eastern Front and Western Front cultures. If you read the writings of those who come from the Western Front, almost without an exception, it's an exact parallel with the French. But if you look at those who fought in other theaters, you see that they have an entirely different cultural context of looking at the future of war.

So the Germans had a catalyst and a leader; they had this dueling dualities of vision, if you will, that fought themselves out in a very rigorous, intellectual process. The Germans had time to think, because they didn't have a mountain of metal that they had to deal with, and they had time to reflect, and by 1926, von Seeckt comes up with his concepts; in 1933, he comes up with the Truppenfuhrung Regulations.

When you read the usual suspects—Bob Doughty's piece on the French, Corum's piece on the Germans, and Harold Winton's piece on the British—what

you see is, that experiments of the interwar period tended to go back and reinforce all the prejudices of the immediate postwar period. I mean, the French at Soissons in the late ‘20s and early ‘30s went back and got Renault F1 tanks and drove them across the plains at 2 1/2 miles per hour.

The Germans, on the other hand, had no equipment, and they had to deal in the abstract. Their experiments in 1933, ‘34, were with newer armored machines, which gave them a completely different perspective.

There’s a great book by Allan Millett, and my co-author, Williamson Murray, on reform in the interwar years. Both of them looked at that period and asked what were the transformational things that happened, and who was responsible for them? Wick concludes that this country produced only one: the evolution of large-deck carrier aviation, and the operational art that went into winning at sea.

Some would argue that Lieutenant Colonel Ellis’ postulations about amphibious warfare fit in that, but really his contribution was mostly new and imaginative ways to conduct amphibious warfare. We went into World War II picking up behind the Germans and trying to apply the tenets of mechanized warfare we learned from them.

Back to transformation. It’s incredibly interesting to read the series of seminars that Patton ran in June, July, and August of 1945—amazing that he got on it that fast. What you learn from what Patton said and what others have said in that immediate postwar is that our army, after World War II, began to bifurcate into two competing camps—for lack of a better term, we’ll call them the “Europeanists” and the “Asiatics”. Essentially, the Army today is still divided into those same two camps. Today the Europeanists are trying to find an enemy worthy of our weapons, and the Asiatics, who take a much more pragmatic view of the future.

Unfortunately, we march off to the Korean War, and the Europeanists win. Walton Walker probably leads the most inept campaign in the history of our Army. What came out of the Korean War, in many ways, was an operational concept that was before its time—that the Army almost backed into, because the Europeanists were desperate to play in the game. The game, of course, was the advent of nuclear weapons, the nuclear battlefield, the creation of the Strategic Air Command, the Navy’s pursuit of nuclear weapons, the space race and the development of the Intercontinental Ballistic Missile.

There’s a wonderful little book by Skip Bacevich about the Pentomic Army. I recommend it to any of you if you haven’t read it, because it has more insight per word than any book I’ve read in many years. But what Skip says is the Army in the 1950s, in many ways, got it right for many of the wrong reasons. The Army

then was trying to find a way to fight in a nuclear battlefield, not thinking that it wasn't going to happen, and they came up with the Pentomic Division. The Pentomic Division actually stayed with us in the airborne, almost until the early '60s. It was the idea of autonomous battle groups, dispersed and able to fight on a distributed battlefield, enabled the Army to fight autonomously.

The irony is that many of the concepts that the Pentomic Division came up with were very much an Asiatic view of war. But they failed because the concepts were developed before the technology was available to support them, and also because the Europeanists reached out and wrenched the Army right back to where it belonged, and that was on the plains of Western Europe.

So you have a failed doctrine, you have a failed concept, you have technology that doesn't apply, the wrong lessons drawn from the Korean War. The irony is, of course, is that fast forward 30, 40 years later, those concepts fit very well when technology and conditions in the world catch up to it.

In many ways Vietnam was an amplification of the dueling dualities of the Army. Now we have a truly Asiatic Army, developing ways to fight against insurgents, and we have the leftover of the European Army that's trying to preserve the images of the past. This dueling duality then comes out in 1972 with the Europeanists winning again.

The catalyst that caused the Army to change wasn't Vietnam—it was the Yom Kippur War—again, a catalyst that induced reform in the American Army. It was an attempt by the American Army to restore respectability and walk away from the horrible images of Vietnam, where the Army essentially failed at the operational and strategic level. We left all of that baggage behind, hoping, then, to restore our respectability.

Eliot Cohen calls this the return of "Uptonian hunger"—the idea that, very much like the Germans in 1920, and very much similar mistakes of the Germans in 1920, we declared that we've had it with diplomacy, we've had it with politics, we've had it with war at the strategic level—we're going to become absolutely the world's most proficient Army at winning the operational fight. No one will be better than us. This is the Germans in 1920; this is us in the 1970s. That led, of course, to the Starry revolution in the late '70s.

An interesting sort of backwater, as far as you guys are concerned in this discussion, is probably the most successful transformational effort during Vietnam, during the war, was the Air Force. Very interesting. There have been several books written about the air war in Vietnam and the trauma of all that, but let me just

give that to you very quickly, because I think it's important to the general topic of how militaries change.

Recall that in World War II, the "exchange ratio" against the Germans and Japanese was eight to one, and thirteen to one against the North Koreans and the Chinese in the skies over Korea. By the summer of 1967, both the Air Force and the Navy were at parity; they had invested hundreds of billions of dollars, developing the F-4, the F-105, and they realized that the North Vietnamese were beating them in air-to-air combat.

It was all due to a failed doctrine. Fighter pilots were taught the lob/toss technique for delivering nuclear weapons, rather than how to do air-to-air combat. The F-4 was essentially a fleet interceptor which was not able to dog fight. Russian aircraft, the MiG-21, the MiG-19, even the MiG-17, was able to shoot down Air Force and Navy aircraft to an embarrassing degree, and actually reached parity—much of it, of course, coming from anti-aircraft fire.

So what happened was a stand-down in air services, where the Air Force and Navy stood back and said "we've got to fix this". The problem was both technological and cultural. That led to the creation of Red Flag and Top Gun, and the development of a body of aircraft, the F-15 and 16 for the Air Force, and the F-18 and the F-14 for the Navy, essentially a high/low mix that was able, then, to cover the spectrum of air-to-air combat. The American Air Forces have never been challenged in the air since.

Today the exchange ratio for an F-15/16 in the hands of Israelis and Americans is something like 257 to 1. No better success story probably in the history of the development of American technology than our absolute dominance of the air at a cost of trillions.

But my point to you is that this was a magic moment for the air services, when they woke up one morning and they said, "We've got it wrong, and we've got to get it right."

What about the Army? Well, our obsession to return to respectability in 1973 led us down the Europeanist course again. It taught us to walk away from appreciating warfare at the strategic level, and go straight to the operational and the tactical, and frankly, we've paid a price for it.

The bright light in all of this happened in this very command, and some of the guys in this room participated in the Starry era reforms. Not so much because Starry had the right answer—I happen to believe he did—but Starry invented the most successful method of forcing the institution to change, and that was the use of the collegial method of reform; the ability to build a very broad transforma-

tional tent, to get political and media and industry to buy into a concept, and then, as a final act, to buy the weapons.

By the time he finished with Gary Hart and Newt Gingrich and Bill Lind, and all the usual suspects, we had an entire nation that bought into the idea of a return to the operational level of war, and AirLand Battle. When we showed up with the "Big Five" and went to The Hill, people complained about the cost of AirLand Battle, we held up the moniker: "You believe in the concept, right? You've already agreed! The Israelis told you it was right. So now we must buy the material to fulfill the dream, rather than coming up with the material and try to build a dream after the material is fast on the way to being developed?"

Yet even then we had two armies. We had the Europeanists who were dominant, and we had the Asiatics who were following in trail. We see the dueling dualities for the next two wars that profoundly have shaped the way we think about war, and that is to compare two major wars—the visceral, the dramatic, the wars in the media—DESERT STORM, and IRAQI FREEDOM. Then we have two subordinate wars—one in Panama, and the other in Afghanistan.

Part of the interesting thing about this duality is, oftentimes, the more dramatic captures the imagination, while perhaps the less evident, and the more sublimated experience, might have more sinews, or more indicators of how future warfare may be fought. But in every case—in DESERT STORM, and in IRAQI FREEDOM—the Europeanists have prevailed again.

I'll tell you a quick war story on myself. I was a brand new brigadier general, and I wrote *Certain Victory*, which was the history of the Army in the Gulf War. I learned a couple of interesting lessons from having done that. Number one is, I swore that as long as I remained on active duty, I would never write another piece of contemporary history until all the actors were stone cold dead. I got a lot of "help" in this book. One of the great things that Scott Wallace did is pick a retired officer—Greg Fontenot—to do *On Point*, which is the chronicle of the kinetic phase of this war.

The second thing is Bob Scales' corollary to rule number one, and that is, the performance of a division commander is inversely proportional to the amount of help he offers when you write the book. For those division commanders who were brilliant, it was simply, you know, "Write the story, Bob; tell me how it comes out." For those who sort of screwed it up, about every three days, an eighteen-wheeler would back up to my headquarters, with mountains of material to show how their particular division actually performed a lot better than the press clippings indicated.

Another quick war story. This is about the failure of being too quick—too quick to come out of a war with wisdom. One of the things that I was told by all my artillery buddies after DESERT STORM was that, "Why did the artillery perform so poorly in DESERT STORM?" "Their answer was it couldn't keep up," and that became a mantra that I happened to write in Chapter 9 of my book: The artillery couldn't keep up. Then when I came back to TRADOC in 1995, I realized I got it exactly wrong. It wasn't that the artillery couldn't keep up; it was that the artillery couldn't keep up because it wasn't precise. The artillery kept up fine in the kinetic phase of IRAQI FREEDOM. Why? Well, because commanders didn't have much of it, and they realized that it was useful.

The conclusion I came to in this second order of thought, in the mid nineties, when I started AAN project, was that it wasn't about the speed of the system; it was about the bullet. What maneuver commanders were realizing in this almost subliminal use of firepower was that if I have something that has one meter accuracy, why should I use an area-fire weapon that takes, on average, an hour and fifteen minutes to get it to put into play?

So, what did we do? We marched down the path of building the Crusader, didn't we? We relied on information that was developed too soon, without an opportunity to age sufficiently, we applied it too quick to a program. When we realized three years later, it's not about the platform; it's about the bullet! Yet we wasted probably close to $20 billion, chasing a ghost down a blind alley. Had I been a bit more reflective about it, I might have gotten it right.

So we continue with this process of dualities here. But there was some good news. The good news was that the Asiatics—in this case, my good friend and mentor, Huba Wass de Czege—woke up one morning and said to me, "Well, Bob, what if we could combine the speed of aerial maneuver with the advantages of protected firepower, and put it together in the same system, and lift an army away from the tyranny of terrain, and conduct the operation maneuver to long distances? Maybe we don't need all this heft and bulk and miles-long logistics trains that clog the MSR."

Sixty-six percent of an armored division in the Gulf War consisted of artillery, and all the stuff to haul it, protect it, and shoot it. In the famous GHQ (General Headquarters) exercises in '92, '93 Huba came up with the concept of aerial-mechanized maneuver. I picked it up in—geez, when was it, Jim?—'95, '96, '97, and '98, and the AAN (Army After Next) concept and the work I did in TRADOC, where we said, "Hmm, maybe there's a way we truly can transform the Army, and get away from this passion on heavy metal, and talk about a true reform in how armies fight."

Well, the person who drove us in this direction was the enemy. Clausewitz says war is a two-sided game, and both sides want to win—and in this case, almost thankfully, I guess, in a way, the enemy have changed the context of this whole debate. They've begun to push the Army away from its duality, from the Europeanist side, into more of the Asiatic view of war.

The first lesson is: let's not be too quick to judge the outcome of a war while you're fighting the war. Let's be reflective and empirical about it, and let's make sure that we don't allow our own experiential baggage to determine where the Army is going.

Which leads me to Bob Scales' 12 concepts about how transformation failed, based on what's happened over the last 50 years in our Army. Why do reforms fail?

Number one, "change driven by strategic and political preconceptions." That's what happened to the French in the 1920s; that's what happened to us in the 1970s. That's probably what's happening to us, to a large extent, today. We have a series of political and strategic perceptions that we believe to be right, oftentimes driven by factors unrelated to the realities of the battlefield or the promise of technologies or the influence that the enemy may have on where we go. These preconceptions will pull us or drive us, or drag us in the wrong direction. Sometimes those misconceptions, in the long term, can prove to be prophetic. I use the Pentomic example as a case in point. But that's more by accident than by any rigorous intellectual process.

Secondly, seeing what just happened, versus thinking about what might be. There is no action-reaction in future-gazing when looking at the future of war. Everything has to be passed through that war-fighting lens; everything has to be filtered. What just happened is not enough to tell you what's going to happen; otherwise, you find yourself in that pedantic treadmill, of leading you from the past into the future without any deviations caused by any of the traditional variables that cause armies to change how they fight.

Third, incremental versus leap-ahead. It takes about half a generation to change an army, and you can't do it any faster than that. The difference is that during wartime, the rate at which ideas pummel you come at a much faster pace and the price for mistakes are much higher. But ultimately, the only true manifestation of a transformed army is units that know how to fight in this new environment. Schools are important, doctrine is important, but the ultimate manifestation of success or failure is units in the field, and that takes a long time. The process of change is very, very straightforward. It takes 12 years to make a tank; 15 years to create a battalion commander. So the data point that you pick is at least 15 to 20

years ahead, because if you talk about change in 2010, that's already happened; you talk about 2015, we're there.

Very important: "grandstanding versus empirical analysis and reflection." Big problem. The bigger the experiment, the less relevant. What was that war game that Paul Van Riper got in so much trouble over?

Audience: MILLENNIUM CHALLENGE.

MILLENNIUM CHALLENGE. Absolutely the worst experiment our military has ever done in 50 years of trying to divine the future! If you spend $250 million dollars on an experiment, guess what? It's going to succeed—even if it fails! It's like turning to Jonas Salk and saying, "Jonas, look, I've got good news and bad news. I know you want to cure polio, and I'm going to give you a billion dollars—that's the good news. The bad news is, I'm going to give you one egg. And, oh, by the way, the press is going to be there when you inject that egg with your virus, and you'd better get it right, stud, or you're out of here." That was the problem with MILLENNIUM CHALLENGE. We had aircraft carriers deployed, air wings all over the place, divisions running around in Twentynine Palms and NTC, and the answer was, "We're going to win!"

My good friend Paul Van Riper said, "I'll tell you what, let's just take a bunch of speedboats and run them up against aircraft carriers and sink a couple, because that's what the enemy will try to do. Paul had to get up and walk out. Why? Because the game was a grandstanding event. The key to change, of verifying historical experiences, experimentation, and war game: It has to be done in digestible increments. Like any empirical process, you begin with a hypothesis and move to analysis and synthesis, and you've got to do it over and over again, to create enough data points to ensure that you're on the right path. View change and experimentation as a series of stop-action pictures, if you will—taking vertical slices in time, where you are able to stack empiricisms, which over time allow you to form a mental matrix, or a view of what the future looks like. The more data points, the better; the degree of granularity and resolution almost doesn't matter. It's the repetition, it's the variety, it's the diversity of the inquiry that's important, not how many planes you put in the air, or how many ships you put at sea—that's grandstanding, not experimentation. The French did it in Soissons, and the Brits did it in Salisbury Plain. The media was there, and by God, that's how it's going to work, because that's how you sold it. You can't "lose", even if after a time you realize that you were wrong.

Too quick to the tactical. This is a minor disease in both the Army and the Marine Corps. You have to lift yourself away from the tactical. Why? Because if you get to the tactical, you get too much into detail, and it becomes all about TTP

(Tactics, Techniques and Procedures). When you focus on TTP, you're out of the realm of transformation; you're simply gilding the lily. Part of the key element of experimentation is to conduct tactical experiments, and to proliferate them. But the collective thought has to be at the operational and the strategic level.

Technologies dictating concepts—find an enemy and a method worthy of our weapons. This is a very serious problem with us. We have the technology—net-centric warfare—so let's come up with a military theory that supports it. What's good for IBM has got to be good for the Army—build me a network, and the enemy will collapse. Build me a net, and the enemy will come.

Well, we're learning about that, aren't we? The enemy adapts. He says, "You want a net? I'll build a net, and I'll build it with tribal affiliations, and execute with notes passed in the middle of the night, and through backyard deals. And you can build all the nets you want, but I'll beat you at your own game." I think the bill on netcentric warfare is something around a trillion dollars. I've been to the Office of Force Transformation. It's incredible that people are still living in a realm of fantasy. Try to talk to these guys about the enemy, and about war being a two-sided affair, and they look at you as if you have a tree root growing out of your head.

Do you know what they call tactical land warfare in OFT (Office of Force Transition)? They call it networking at the edges. [Laughter] Networking at the edges—as if to say the object of netcentric warfare is to tell every admiral exactly what he needs to know, and all the rest will fall into play. You got all these soldiers dying in Fallujah and Baghdad. Okay, well, that's the edges. So we'll network to those at the edges." That's the mind-set that we're in today, in many ways. Unfortunately, our service, much like the Pentomic Era is, trying to jump on the network bandwagon.

The issue, as Scott Wallace has said over and over and over again: "It's about battle command!" The networks facilitate the decision-making process; the decision-making process is not tailored to fit the networks. Now, fortunately, since he's the Commander of CAC (Combined Arms Cernter) and he's been beating this drum, and as I wrote in my book *The Iraq War*, he's kind of figured out how to craft the instrument to fit conditions instead of the other way around. Thus, the Army's making progress in this but we are minor players in this wonderful drama. Give me an enemy worthy of my weapons...please. Do you ever notice that we only decide to fight China during the Quadrennial Defense Review? Do you ever notice that? "Give me a peer! Who can make a carrier? China. Okay, they're the enemy." It's this whole idea of technology driving doctrine instead of doctrine driving technology.

"An imperfect view of future geostrategic environment." There are three principal variables in change. One is domestic politics; two is technology; three is the geostrategic environment. The one we almost always get wrong is anticipating the geostrategic environment. Steve Metz works with me at the War College. He's a very obstreperous gentleman; many of you know him. When I first came to the War College in 1997, he kicked in my door and came in with his furrowed brow, and says, "You need to understand something about the enemy." "What, Steve?" He said, "It's terrorism, by God. It's 13-year-olds with the Kalashnikovs that are going to bring us down—they're going to attack our country. There's this guy named Osama bin Laden..." and of course, I immediately blew him off because I knew he was wrong, and I've been apologizing to him repeatedly for the last three or four years.

Why? Why did Steve get it right? Because Steve had a clear view of the course of geopolitics, and the conditions of the world. He knew that the Cold War may have been a Blue-driven period, but he knew that the post-Cold War period was Red-driven, and he was able to peel back the layers, and look at the enemy as he really was, and anticipate where this country was going. It all has to do with a realistic view in a geostrategic environment.

The next three are pretty straightforward: unanticipated breakthroughs, and overreacting to unanticipated breakthroughs. War is war; there is no era of war, there's no such thing as fourth-generation warfare or third-generation warfare or second-generation warfare—there's just warfare. Then, occasionally, breakthroughs will come along that may change some of the tactical conditions of warfare. Sometimes they can be catastrophic; sometimes they can be revolutionary. You could argue that World War I, it was chemistry; World War II, it was electronic science; you could argue that it was information in the Cold War. I believe, into the future, if there's going to be a breakthrough, it's going to be in the biological sciences—that's where we have to look for the next Big Thing. You have to anticipate it, and do the best you can to figure out what it is.

Next is shape and change to conform to programmatics. This is probably our biggest problem now, in the sense that we've committed ourselves to programmatics, and to admit that some piece of the programmatics might be faulty, based on current events, will cause the whole program to collapse and fail. That's the way our system works; that's the way we acquire material. So, in many ways, material acquirers wind up driving the train once the concept moves into structures and material. We have to be very careful, as we drive into modularity—into Stryker and FCS (Future Combat System)—that we always have an off-ramp, or at least we're able to do a branch or a sequel, to make sure that we don't get too far being driven by programmatics rather than the realities of war.

So, what does all this mean? Let me tell you what I believe. I believe, to do this right, you have to have time for synthesis; you have to have time for reflection. That's hard to do during a war. Military change is sort of like creating a fine wine, or a great painting—it takes time, it takes reflection, it takes the ability to do second and third order of thought. I use the analogy of the Crusader, I think, as a perfect example of that. We're too quick to rush to conclusions in a war, because, first of all, we want to apply the immediate tactical lessons into something that we can apply for the future. But you can't do that—you're too close to the problem; you need to stand back and you need to reflect. To my mind, that's always been the genius of TRADOC. It's this institution that forces synthesis.

I said, "Never fight the war like the last," but you know, we're talking here about key variables. I'm going to offer you what I think are some sinews that are beginning to emerge from this war, but it's all hypothesis; there's nothing that I'm going to offer you that I believe in so firmly that I'm not willing to walk away from.

The porosity of ideas and concepts. It's interesting that visionaries often don't win. I mean, look, the Germans lost, and the great visionaries in the interwar period—at least those who applied it—were the Germans. The problem is that the passage of ideas is so porous today, that those who come up with the idea usually wind up not being able to apply it properly, for two reasons. It's the old problem of late lock versus early lock. The great visionaries want early lock. "Give me a four-engine bomber," in 1933, "and I'll make you pure." Unfortunately, the pace of time is sort of self-driven, and often times, it's the guy who does the late lock that ultimately winds up with the best fighting machine.

The power of first-hand experiences. I did my doctoral dissertation on the British Army in the late 19th century. I could see this train wreck coming at Mons and Le Cateau in 1914, and I kept thinking to myself, "Don't these guys get it?" Because, like any graduate student, I'm following it from 1858 to 1914, and I get to about the turn of the century and kept saying, "It's there! It's there! Can't you see it? You know, the small-bore rifle, the machine guns, mines, barbed wire, entrenchments. Look around! Why can't you figure this out?"

The British encountered the power and the seductive effect of first-hand experiences—the visceral that trumps the vicarious every time; the practical soldier will win over the theoretical soldier, particularly during wartime. Why? Well, practical soldiers are rewarded; theoretical soldiers are not. All armies do this. Almost without exception, the theoreticians are crushed, because they're willing to think about something that's not based directly on real war experience.

So you have to be very, very careful at some of the conclusions that are coming out of the lessons learned process. You cannot equate lessons learned with visioning for the future. Visioning for the future is second order, or third order thought; lessons learned is action-reaction. If you view an event, you gain a lesson; you apply a corrective. That is not change—that's reaction—and you've got to understand the difference between the two.

Proper institutions, I think, facilitate change, and this is the "Starry method." It goes like this: There are two ways to look at institutions that nurture change. The optimum is what I call islands of excellence guided by a continuous spirit. Genius comes from people in their twenties and thirties, not from guys in their fifties and sixties. The ability to see into the future is a young man or young woman's game, and generally, it comes from these intellectual petri dishes that dot islands of conservatism.

The German Army, the Prussian Army—there was no more conservative army on the planet. The American Navy in the '20s and '30s was incredibly conservative; if it hadn't been for Admirals Sims and Moffett and a small body of creative naval officers, transformation never would have occurred.

So you need to have in every army a body of malcontents; you need to have people willing to listen to people who have alternative ideas. The classic example of failure in that regard is the Israeli Army in 1973—the one we all used to worship. They were so successful after the Yom Kippur War, that the commander's intent about mechanized warfare was so deeply embedded into their school system and into their culture. It was a homogenous culture in the IDF of 1982, if you went to any second lieutenant, he would give you exactly the same view into future warfare as any two- or three-star general in the IDF. And they march into Lebanon, and the rest is history. Even today, the IDF is struggling to break out of that homogenous mind set to find new ways to deal with the Intifada. They have had to completely reorder their culture. You can be too doctrinaire—you have to be able to find ways to build into this institution islands of excellence. What's the worst condition? Strict hierarchies, dominated by practical soldiers, who know the truth. It's your job to reinforce what they already know—make slides, rather than think for yourself. What Starry did in 1979 was to create something called the "boathouse gang"—nine officers, and a body of peripheral islands of excellence. I was a guy on the artillery team at Fort Sill. Starry's technique was to throw something out, and let the lion's eat it. He had a gentleman named Don Morelli, a brigadier general, who literally died from the exercise. Starry spent a year and a half preparing the intellectual battlefield. He allowed foment and change; He allowed diversity of opinion. He brought politicians and the media in to get their views. FM-100-5, the transformational document, published in 1982,

didn't come about until Starry had done a year and a half of briefings around the world—never put anything to paper—111 briefings, I think, Jim, if I'm not wrong, or something like that. Not too long ago, he told me "What's wrong with JFCOM? They're too quick to write!" Because as soon as you put something on paper, it becomes a Talmudic exercise. It's all happy to glad; it's line in and line out—it's the old 2023 stuff that all of us dealt with when we were junior officers. You know, "Don't tell me my concept is wrong! It's in the document!" So you have the Pharisees setting up in the temple, grinding through these incredible turgid tomes to believe in it and to make it better. That's not change—that's intellectual and institutional ossification.

The problem with the one Big Idea—be careful with this, because pretty soon, the Big Idea becomes a litmus test for truth, and the idea, if you want to succeed, is to support the idea; if you want to fail, then you tilt against the windmill. And what if the Big Idea is wrong? Or what if it's irrelevant? Or what if it's peripheral to the problem—netcentric warfare? Or what if the enemy has the ability to develop a Big Idea faster than you can refine the one you have? You lose the war. Be careful of the moniker and the bumper sticker—be careful of net this and net that. I wrote a piece a few months ago called, "Culture-Centric Warfare." I told my editor, "Look, if I don't put *centric* on something, you guys won't publish it."

A national strategy that determines priorities. Political leadership usually gets it wrong, or they get it right for the wrong reasons. When you have doctrine that comes down from the oracle of Delphi, you must automatically assume that it's wrong, because it's driven by motives other than an enemy—it's driven by political motives, or motives that relate to the field of international diplomacy. No visionary can overcome wrong-headed strategy—this is the French example.

Reform is often impeded by Metal—one of the reasons the French failed to adapt is that they had billions invested in legacy material. So the temptation is to rearrange the deck chairs instead of starting over—simply because of the investments. At Camp Mihiel in 1932, the French were still using 75mm horse-drawn howitzers, and they were still using Renault F1 tanks. Why? Because they had so many of them! You take what you have and you make it better; you find ways to adapt, using what you have already, because you've already made this huge investment.

The mundane—most of what soldiers do is incredibly mundane, and routine. We are, at our heart and souls, bureaucrats, and most of our time is taken up with process—that's just who we are. Rarely do we have occasions like this, where we can step back and do second-order analysis and synthesis, and think about the future. Our OER (Officer Evaluation Report) is written about how we do practical

things—how we get chow, and ammunition to the guns. We ask: "How did you do at the National Training Center (NTC)?" not "Do we need NTC."

The problem with process is that pretty soon, when you get to the right of my chart, doctrine looks like a huge sausage machine. When you're in the process of doing process, all you're doing is turning a crank and turning raw meat into hamburger. Step back a little, and think about what you're doing. Are the assumptions that go into that sausage machine correct?

Inclusion—very dangerous in our military today. Remember the great story about von Manstein trying to build armored divisions, and all the Western Front veterans contended that every division needed an armored car? Let's give tanks to every division. It took an enormous strength of will for von Manstein and others to say, "No, no, no, no. We're going to put our armored formations at the tip of the spear, because that's the essence of operational maneuver.

This problem is made particularly difficult today because of our obsession with jointness. Jointness is, by its very nature, a source of friction in forward thinking, because everybody has to have a piece of the action. Why do we put a "J" in front of all of our headquarters? Well, because we have to be joint. Actually, we don't. There's very little "joint" about IRAQI FREEDOM—it's 95 percent Army and Marine Corps. It's got everything to do with winning the war on the ground. The enemy has ceded us the global commons. We own space, the air, and the sea.

A great article, by the way, by Barry Posen in the *MIT Review* called, "The Command of the Commons." Barry Posen gets it, that this obsession with jointness, the obsession with inclusion, this idea of all doctrine development must be collegial; everybody has to be brought along until everybody's happy. That's insidious.

So what do you need to succeed? I think, first of all, you have to begin with a realistic image of future war. Not what's going to happen after IRAQI FREEDOM, but what's war going to look like in 2020 or 2025? How are we going to view warfare in the future? This is this idea of leap-ahead, the left part of my chart.

Second, you need a catalyst for reform. Normally, it's a person. You need a Donn Starry. You need someone who has the unique skills, not so much as a visionary—Donn Starry will tell you that he was not a visionary; what he was, was an individual who knew how to move an institution forward. He knew how to manipulate the elements of change in order to get the most from the process.

Third, as I said before, you've got to experiment. Experiment in minute increments. Experiment over, and over, and over again. You might have a grand event,

but it needs to be cheap, it needs to be repetitive, it needs to be distributed, and it needs to be run by captains and majors and maybe lieutenant colonels—not by generals and heads-of-state. That's how change occurs.

You've got to create in this process, over time, a common cultural bias, and that's the genius of Donn Starry. His idea was, through his collegial style of leadership, to buy consensus. You know, Starry once said "Doctrine isn't doctrine

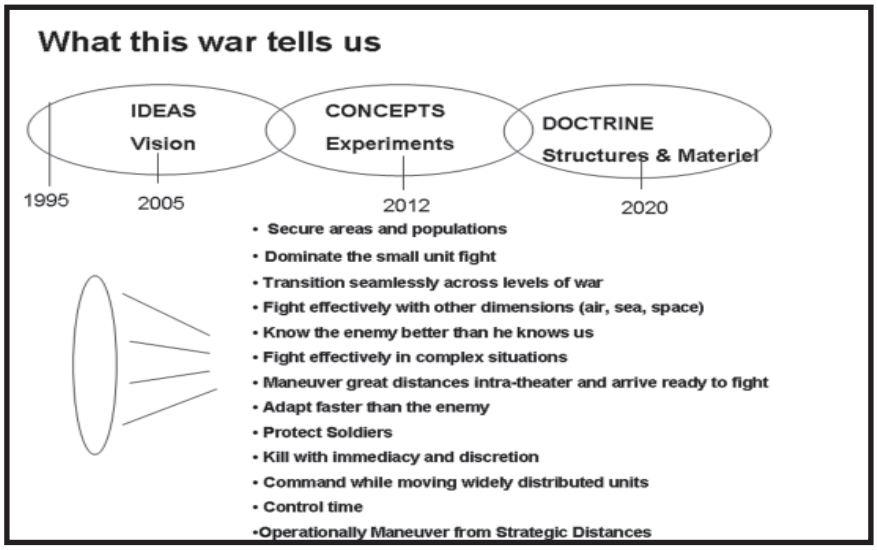


Figure 2

until 51 percent of the Army believes in it." I would argue that doctrine isn't doctrine until 51 percent of the American military believes in it.

Finally, and most importantly, we have to have uninterrupted support from the top, because if you get a break, as the British did between 1931 and 1935, when the Chief of the Imperial General Staff shut down experimentation and that the British Army was forced back to their colonial roots. It has to be uninterrupted and it has to be continuous; otherwise, you'll fail.

Now everybody in the back of the room is saying, "Okay, smart ass. If you're so wise on how to look at the future, what do you think about this war? Let me give you a list (**Figure 2**)

Obviously, secure areas of populations. I think one of the greatest transformational ah-ha's that comes out of this war is the rediscovery of the value of the tactical fight. Remember I told you, don't be too quick to the tactical? But there's science that goes into the tactical fight, and the enemy has pulled us down to the

tactical level. You could almost argue that he has removed the operational level of war, and the tactical fight has become increasingly more important for determining strategic consequences. Shoot an Italian journalist at a checkpoint, and it changes the strategic context of the war.

I think you have to have a military force that can transition seamlessly across the levels of war. You cannot allow a vacuum to occur. Collapsing an enemy's will is always transitory—when he's down, you have to keep him down. You cannot allow a military vacuum to occur; if you do, it leads to a political vacuum, and it gives the enemy an opportunity.

Clearly, fight effectively in other dimensions. Know the enemy better than he knows us. It's not enough just to know the enemy; you must have an intellectual OODA Loop that's tightened, such that the process of knowing the enemy and adapting to the way he fights has got to be tied into the way the enemy adapts to us. It's all about intelligence, but it's intelligence of a different sort.

Fight in complex situations. I think this is the lesson of Panama and Afghanistan that is being subsumed by events in DESERT STORM and IRAQI FREEDOM. Operational maneuver from strategic distances, and the ability to not only maneuver great distances, but arrive ready to fight. One of the things that didn't seem to hit the public consciousness, at least in the media—was the march of the Stryker Brigade from Fallujah to Kut. I woke up one morning and "This is huge! This is enormous! Does anybody get it?" Everybody looked at me like, you know, "Well, that's very interesting; so we had a bunch of armored cars drive up the highway." No, no, no, no. This is operational maneuver of a completely different sort, something that Huba and I have been talking about for almost 15 years. It was an enormous distance, 400 kilometers, they rehearsed on the move, and deployed once they arrived.

Adapt faster than the enemy, and protect soldiers. You know, that used to be number one. We're away from protecting soldiers as job one, but we still are an army whose vulnerable center of gravity is dead soldiers. 9/11 changed the context—it raised the bar—but people are still counting.

We must kill with immediacy and discretion. Immediacy—we're still too slow in how we kill, and we're still relatively indiscriminate. We need to be able to kill someone on the other side of the wall, rather than dropping a building in Fallujah, and we need to do it within seconds and not minutes. The Air Force is very proud of the fact that their reaction time for close air support has gone from an hour and 15 minutes in Korea, down to about 20 to 25 minutes now—that's still too long. It should be two minutes, not 20 to 25 minutes, in this type of war.

Command while moving widely distributed units. I get this from Scott Wallace—he's absolutely right. That's the genius of the American method of command and control. Wallace broke ground in his command of V corps in the kinetic phase of this war by being able to do that, and probably the first corps commander since Rommel able to make that happen.

Control time. It's all about time. Time is our enemy, and our enemy's friend. Ultimately, if we can't regain the control of the clock, we cannot regain the operational initiative. Right now, the operational initiative, I would argue, is in the hands of the enemy. Again, operational maneuver from strategic distance, going long distances. Why is it important? Because the enemy has chosen to take us on in the hidden places, in the far corners of America's regions of influence, and he is the one who determines where the battle is being fought, not us.

Let me just end with a quick thought. When we finally opened the Soviet archives, in the late '80s and early '90s, we suddenly realized, to our great amazement, that we were driving the train, which is why Star Wars was so successful. The Soviets had this enormous envy of us, and much of what they followed was a trail behind those innovations and changes that we made in the '80s and '90s, and we didn't even know it. An enormous amount of intellectual envy that went on. So the Cold War was, in many ways, a Blue-driven condition.

What happened after 9/11, I would argue, is that it shifted to the other way—we're now living in a world that's driven by Red. Osama bin Laden doesn't care about joint doctrine. He controls the clock, he's driving change, he's adapted very quickly, and he really doesn't care about any of our structures, about mimicking anything that we do whatsoever.

So what does that mean—for you? What it means, is the onus for adaptation—for increasing the pace of adaptation—is on you, not on him. Until we're able to do that, until we're able to cast forward and get away from the practical present and think of the theoretical future, we'll never be able to close that gap.

What are your questions?

Day 1, Session 1 Question and Answers

Audience Member:
Inaudible

MG Scales:
I think one of the equities that Mike Hagee has embraced is to actually start at the squad. This is something that Van Riper and Mattis and Hagee all have embraced—changing the nature—it's almost as if we're changing it from two different dimensions and moving towards the middle—and I don't think that's bad; I think that's healthy.

So, does the Marine Corps think at the tactical level? Yes. Why? It's their history. Is that important? Absolutely. But what's missing, I think—I would offer to you humbly—is a lack of intellectual convergence between the three of us, and there are really three of us: Special Operating Forces (SOF), the Army, and the Marine Corps—this is the ground warfare family, what the Chief of Staff calls the "new Triad." We don't do a good job sharing to the degree that we should. We oftentimes operate in isolation at the higher levels, when we have to build a single view, if you will.

What we see here, at the tactical level, is a practical convergence between all three entities—Special Ops, the Marines and the Army, increasingly, on the ground look very much the same. It's how they fight. The truth is, the enemy is pulling us and converging us together. This process of convergence is going on, on the battlefield right now. Look at Fallujah, and how it was fought—SOF, heavy Army- and Marine-dismounted infantry, for the most part, is what went down. But my fear is that we'll come out of this war and we'll snap back into our old ways, and we won't continue this process of convergence.

It's kind of like the air forces in the Gulf War, or better yet, the air forces in Vietnam. Remember they had two different route packages, because the Navy and the Air Force could never fly over the same air space? Well, that all changed during the Gulf War, and it sure as hell changed in IRAQI FREEDOM. I think it's a similar place where we are right now between us. I believe—I passionately believe—that we are at about the DESERT STORM phase of getting it when it comes to converging land power forces, and making them homogenous.

Does that mean that we get rid of the Army or get rid of the Marine Corps? No, no, no. Culture counts. History counts. But it's this similarity of method, driven by the enemy, that has to be embraced. So, as we look to the future, and as Jim Mattis begins to develop his new vision of war at the tactical level, we in the

Army have to embrace it. As we begin to change our concepts of operational maneuver from strategic distances, and strategic coup de main, and all of the things that we've been writing about for years, the Marines need to embrace it. And to some extent, I believe they are. Go ahead.

Audience Member:
Well, I would also suggest, looking at your list there, one of the things that certainly I would suggest that happened in the aftermath of Vietnam also, and in your talk, I think you were quite correct in describing the advent or AirLand Battle was that the Army dropped counterinsurgents like a hot rock.

MG Scales:
Exactly! Exactly! That's my point to you about convergence again. So, let's say we walk away from this war and two bad things happen: All the goodness that we've learned from training the Iraqi Army, much as we learned from training the Vietnamese Army, is forgotten and the lessons that the Marine Corps learned about intimate street fighting—not about blowing up cities, but about door-to-door fighting, all that's lost. As we somehow try to snap back into a different way of thinking of war at a higher level, that would be unfortunate. I would suggest that, you (the Marine Corps) are the keeper of the keys at that level.

To me, I think if there's one skill that we carry forward from both the Army and the Marine Corps, that becomes a supreme equity, not a disadvantage, as we look to the future.

Audience Member:
Well, but what you're really talking about is just the connect. I mean with counterinsurgents, there's so much more than that.

MG Scales:
Absolutely.

Audience Member:
I mean knowing about power grids, and trash disposal, and all this other stuff—

MG Scales:
That's all important. I absolutely got that. And I'm not just talking about kinetic, but you know, if you don't build a secure environment, you go out and try to collect the trash and somebody puts a bullet in your head. So it's not one or the other.

Audience Member:
No, but you know, one needs to—too often, though, we have ignored one at the expense of the other.

MG Scales:
You're absolutely right. No question about it. I absolutely agree with you. But I would suggest to you that as you march into the future, we cannot allow that divergence to occur, once this war is over, because the goodness needs to be preserved.

Audience Member:
How do we control time with an enemy that has no sense of time?

MG Scales:
Great question. The question is "How do we control time with an enemy that has no sense of time"? And the answer, I would argue, respectfully sir, is they do have a sense of time. The only difference is that counterinsurgency, if you're engaged in counterinsurgency, the time you measure is oftentimes in years, if not decades.

But you still have to control the clock. I mean, just because the clock ticks slower doesn't mean that you can't control it, or manage it, or manipulate it. You can do that in all three levels of war in a counterinsurgency. To sit back and do nothing, and to follow a trail with the actions of the enemy in a counterinsurgency, is counterproductive. The British learned that in Malaya. One of the reasons why the British managed to bring that to a successful conclusion is that they controlled events; they controlled time. They regained control of the time; they wrested it away from the enemy. Now, it took time, but instead of the insurgency lasting until today, they managed to suppress it in about a decade, which is lightning speed in terms of what goes on in insurgency. But it ultimately came down to that.

There's also a military dimension in terms of controlling time at the tactical level. Ultimately, counterinsurgency at the kinetic phase, to use the doctor's phrase over here, comes down to very small unit fights, conducted in very tight confines and done very quickly and very brutally. That's also an important aspect of controlling time, because killing the enemy is still important in a counterinsurgency, I will submit to you, and doing it efficiently—and doing it quickly—is an important element.

But, having said that, clearly, an insurgency is not like a kinetic war—it does take time. In fact, I would argue, controlling the clock in an insurgency is even more important, because in many ways, the only advantage the enemy has in an insur-

gency is time. The only major advantage. He doesn't have technology; he doesn't have much else. What he's got is patience, and a willingness to die. So that is something that needs to be controlled—it's still important. But you're right—patience. And we Americans tend to be very impatient.

Audience Member:
John Lynn, University of Illinois. Loved your talk very much. But it seems to me there is one big obstacle in this whole thing, and that is, to the extent that the military is conceiving as the ideas, the military is going to see itself as the answer, and we may be in a struggle in which the military is part of the answer, but maybe a much smaller part than the military's comfortable with. I'd like to have your reaction to that.

MG Scales:
Oh, you're absolutely right. I guess, John, the only excuse I can give to you is to consider the audience. [Laughter] That's not why I was brought here to talk about, but you're absolutely right. I mean, we all know that wars are —like Clausewitz, again—political events, and that war is a means to an end rather than an end in itself. Particularly in this war. This war's not going to end with a military victory; it's going to end with some sort of political solution. Absolutely right.

Audience Member:
Yes. Except, the thing is, it looks like violence—it is violence—and I'm only too happy to call it war. It's just that the way to deal with it most effectively is a spectrum of intelligence and uses of violence, in which you're almost admitting that something's gone horribly wrong if you're committing maneuver units to doing something like this.

MG Scales:
Oh, okay. On that one, I disagree with you about—because—this is Colin Gray again, one of my mentors. He once said to me, he said, "You need to understand, it's *all* about war. It's about war at different levels, and different intensities. It's all about war." Because, you know, the default position in regions like Bosnia is conflict. Now, how you manage it, and the elements of power that you apply to managing it—one of which, of course, is the kinetic military side—it's the balance, and that's important. But it's all about conflict. I mean, Bosnia, even today, is a conflict that's just moving at a very, very, slow pace and it's almost as if the military becomes—to use the doctor's point over here—becomes a sort of rheostat, and a way to move the level of violence up or down, to allow other things to happen.

But one of the things to take away, as I get from all my wonderful media friends, who try to convince me that it's all about building schools, is, you know what? If you build a school and the guys go in and blow it to bits the next day and kill all the students, it's not about schools. It's about managing violence. It's about that rheostat that needs to be moved up and down. What bothers the Iraqis today? A lack of democracy, a lack of electricity, or a lack of security? Kind of all, but the one that's most important to them is security. So I hear what you're saying, and I understand that wars follow the spectrum, everything from low-lying insurgencies all the way up to thermonuclear war. And in the essence of transformation, we need to build a military that's able to move seamlessly back and forth across them, not only from war to war, but within wars. That's a lesson from Vietnam. But ultimately, I would respectfully submit to you, sir, that it's still about conflict, and it's still about security.

Well, ladies and gentlemen, thank you very much. I enjoyed talking to you. [Applause]

Army Transformations Past and Present

Brigadier General (Retired) John Brown - Center of Military History

I would like to talk about transformation, and maybe making a distinction in the terms change, modernization, and transformation.

I'm thoroughly in agreement with General Scales on at least one issue: Transformation has a lot more to do with than just technology. If you deal with the technology and advance the technology, well, then, of course, that's modernization.

But we have our transformation at points in time where not only do you have technological advance, but also you have some kind of an appreciable change in the strategic circumstances, and you have some kind of complementary socioeconomic change that changes both your organization and perhaps even the nature and reasons for the wars you fight.

I would argue that in the past hundred or so years, we have actually transformed only a discrete series of times. I think we have changed always; we have modernized often. But we've only transformed about seven times. What I want to do is briefly talk to you about each of those transformations, to underscore the point that technology alone did not drive the change.

From frontier to empire, it is true that around the turn of the century, we had such technological advances as smokeless powder and breech loading guns that were generally available. But what really had caused us to change was that the frontier had closed—America had become a seamless nation from one end of the continent to another, following about 1890. The future of our economic advance would not be by the virtue of further agricultural areas brought under cultivation; it would be by the virtue of commercial and industrial enterprises.

Our strategic setting dramatically changed in 1898 when, as an outgrowth of this change, we ended up owning colonies around the world and having commercial interests that we felt obligated to protect.

The Army that we developed was very different than the Frontier Army that had existed for a hundred years. It was an army for empire—it consisted of units and soldiers who rotated overseas for extended periods. It included garrisons in Panama and the Philippines that were different than anything we'd done before, and it included large infusions of native troops—colonial troops, if you will; the Philippine Constabulary being perhaps the most famous and most successful.

The next great change was from empire to expeditionary force when we intervened in World War I in Europe. Now, it was true that at that time, there was

technological change by the virtue of the general introduction of the machine gun, or artillery that was able to fire from distributed locations and mass fire on single points on the battlefield. But what really drove the change more than that was the strategic setting had changed. We were now forced to fight a world class adversary who was at least our peer, if not our superior with respect to the means of modern warfare, and so we had to commit ourselves to war on a mass scale that we had not seen, at least certainly, since our own Civil War.

The socioeconomic change that accompanied the period was the absorption at the time of huge waves of immigrants into our social fabric that had been over the last 20 years arriving by the virtue of the radically enhanced means of communication across the Atlantic, and the change in the ethnic nature of our population. Additionally in what some call the first phase of globalization—the construction of a global economy that brought us into the European war in the first place—we couldn't let Britain and France lose, because they owed us too much money.

The American Expeditionary Force that fought World War I was a very different army than we'd ever had before—it was mass and constricted, but it was also ethnically integrated; not yet racially integrated, but ethnically integrated. It was part of an expression of the changing culture of the times that caused every American citizen to have the obligation of service, and the Army to have the expectation that it would be drafting large numbers of men from diverse backgrounds, and pulling them all together into effective units.

Immediately after World War I, we transformed to hemispheric defense—that was a change in our strategic setting. We decided that it was a mistake to have intervened overseas. We did not appreciate or enjoy the experience of fighting in World War I with the trenches; we were disillusioned with the behavior of our allies, and we thought we would close ourselves within our hemisphere and protect it.

The technology that allowed us to be confident in doing that, were some very radical advances in post artillery, a Navy that was second to none, and an Air Force that was probably at least second or third with respect to effectiveness in the world, but considerably advanced. The Army, on the other hand, was very modest, very small, but with a large mobilization base.

The socioeconomic change of the time was one wherein the culture itself reinforced a notion of distance from the United States—the Roaring Twenties—you know, the flappers—the dismissing of the external cares of the world, and the desire to kind of make our own way on our own continent, and everybody else leave us alone.

Now, one thing I'd say that plays here is that it's often said that the United States Army was unprepared for war in the '20s and '30s, that we just kind of had lost our military capability and our military outlook. I would argue that that's just not true, that we were actually very well prepared for the war that we were anticipating, which is to say a war that involved hemispheric defense. I can't imagine a better configuration for us to defend the hemisphere than the one that we deployed, given the expense that we were willing to invest.

The problem was not that our great grandfathers were unprepared for war; it was that they were unprepared for the war that they were actually called upon to fight. They fought a different war than the one that they had been prepared to fight. That underscores yet another thing that General Scales was commenting on — making sure that your vision of the future hopefully corresponds to the future you actually experience.

The Army that we raised at the time was ideal for its purpose— mobilizing to defend its continent, and garrisoning a very few strategic points overseas that we considered a requirement to defend.

Now, of course, the war we got into was not the defense of the hemisphere. The war we got into was huge expeditions across the Atlantic and Pacific, in order to bring down an adversary who was, once again, certainly our peer, with respect to military capability.

Now, the technological advances that accompanied that march to war include the Blitzkrieg, that was so ably described by General Scales a little earlier, the wedding of the armored vehicle and the plain and the adaptation of the German techniques of battlefield performance on an even larger, more pervasive scale than the Germans had been capable of achieving.

But I would argue that those technological advances were not as important as the socioeconomic change that accompanied this new Army that was going into battle. The new Army that was going into battle was the product, in part, of the Great Depression, and, in part, of that huge collapse of the economic system within the United States that resulted in a huge intervention of the federal government into all aspects of national life.

Whatever the Civil War did to kind of set states' rights down a notch in the perception of the American people, the Great Depression and the New Deal wiped away the notion that the states were in any way competitive with the federal government as the way in which society would be organized and run, and that the big operations would continue.

So the New Deal, the Great Depression, the radical expansion of federal prerogatives caused the United States to be organized as a centralized government

capable of mobilizing national resources in a way that it never had been before. With these capabilities it went into this new strategic setting that was global war.

The Army that fought World War II very much reflected this massive industrial mobilization capability, wherein the whole society went to war—every industry, every factory, every resource, every man, every woman, every child. Of course, that was capitalized on with 12 million folks in uniforms, huge expenditures with respect to the financial background, and an unparalleled, almost breath-taking industrial performance.

Coming out of World War II, you had the first change out of all of them that I believe was driven by technology—the shift to an Army wherein which nuclear weapons were an expectation with respect to your strategic response. Because we had the nuclear weapon and nobody else did, it was very clear that land warfare was a thing of the past—we weren't going to have to worry about competition with peer adversaries in ground combat—and we adapted a constabulary posture overseas, because all the Army was going to be doing was policing up the fragments that would be left, if anybody else at some other time were so reckless as to compete with the United States of America, which was the world's sole nuclear power.

Collaterally, at that time, the socioeconomic change that was going on that we would see bear fruit later was that, in the aftermath of World War II, the rhetoric that we had mobilized with respect to human rights began to resonate within our own consciousness, as we began racial integration that would be the parallel to the ethnic integration that had already occurred in World War I.

The Army that existed for a very brief period of time in this golden moment of us being the sole nuclear power was a constabulary. It was very good at what it did, which was to say police Germany and Japan. It was incapable of responding to the Next Big Threat, which is to say, the attack of the North Koreans, daring us to nuke 'em, given the fact that the Russians had acquired the nuclear weapon (atomic bomb) about a year and a half before they attacked.

That carried us to a different paradigm—to the Cold War. Here, the strategic setting was appreciably different than anything we'd ever experienced before. We were now going to man the ramparts—we were going to contain communism, and we were going to do that by the virtue of a continuous commitment to large forces deployed overseas, up front, in the face of the enemy, prepared to compete at any level across the fullness of the strategic spectrum.

That strategic setting drove all else. With respect to technological advance, we introduce a helicopter and we upgraded and consistently remechanized our forces. But that equipment modernization, less the helicopter, involved improvements

to equipment that had already proven itself in our hands in combat in World War II and Korea.

The socioeconomic change that accompanied the course of the Cold War of course included gender integration and a deepening of what we call "The Many Colors of Benetton." The notion that we were all a big family and that it was not only our own American character that was going to be tested in the course of our wars and our confrontations, but that you were going to have huge alliance structures that were going to involve virtually all of the world's free peoples, and you were going to add more and more allies all the time, as more and more of our neighbors embraced democracy.

The Cold War Army was unique in our history. It was a continuous-standing, long-term force, that was continuously modernizing. The Army didn't change, but the equipment changed that was in the Army's hands, and you had one tank replace another tank which replaced another tank; you had one artillery piece replace another artillery piece replace another artillery piece. So it was this permanent mobilization and permanent modernization that was the character.

Now, General Scales did argue that there was transformation to and from the Pentomic Division, to and from the Army that fought the Vietnam War, with the introduction of the helicopter. I agree that those were changes; I'm inclined not to characterize them as transformational. I would say that the Army that marched out of Europe in the '90s was identifiably the same as the Army that marched into Europe in the '50s—about the same organization, about the same mind-set, about the same expectation of how it was supposed to perform in combat—a slight difference in the equipment that was available.

Now, obviously, we need to be thinking about what's next. I would say that if you believe that we're positioned for another transformation—and I believe that we are, and I believe the reason is not because technology has advanced, although it has—I think the reason we're facing another transformation is because we have once again experienced simultaneously a change in our strategic setting, a change in our technology, and a socioeconomic change. The strategic setting, of course, is that we no longer have a single adversary, and as a matter of fact, all of the potential peer adversaries are happily buying into the global economic order that causes all of us to kind of behave by the same rule set.

So it's a bit hard to envision fighting the Russians, or the Chinese, or the Indians if all of them adhere to the same rules you do, and are as interested as you are in globalization, global advance, getting their products sold. The dangers to our world, the dangers to our system, originate not in our new peers in the globalized economy; it's from those folks in the regions that have not yet bought in, and remain turbulent, chaotic, and hostile.

Technological advance is obviously based on the microchip, whether it's in precision-guided munitions or in the control of information. There are two types of socioeconomic changes that I would say matters most to us. One is the globalization that I described, and by the way, some theorists would say we're in kind of a fourth phase of globalization, and this one is driven by the pervasive Internet technology that's kind of sweeping away so many of the national differences that previously existed. The other socioeconomic change is the brain of both our own country, our former allies, and our former adversaries—that you've got this huge population demographic where the population growth has slowed down almost to a standstill amongst folks who formerly were our rivals, and yet is running, as yet, unchecked in the Third World, wherein which so much of our trouble lies.

That concludes my presentation. In conclusion, I just wanted to give you a quick overview of, where our Army transformations have occurred in the past, to lay out some conceptual ideas, and some definitional terms we may be able to draw on later, as we ascertain whether the changes that we are speaking to represent change, or represent modernization, or whether they truly do represent transformation.

I'd also say that the issue of whether or not we should transform during wartime, there's no better time to transform, because it's during wartime that you have in fact the resources and the manpower and the public attention to accomplish the changes that you need to accomplish. That's not just me talking; that's General Schoomaker's personal philosophy, that there's no better time to transform the Army than now. It would be a bad idea to defer transformation until the fighting's over, with the expectation that Congress would continue to give you the money to transform at some later point in time, because it seems like a good idea.

Army Organizational Changes—The New Modular Army

Ned Bedessem–Center of Military History

I'm going to talk about the Army Modular Force, and how CMH has participated in the designation of its units. I'll start with a brief description of the Modular Force. Through modularity, the Army intends to create a force that is more powerful, more readily adaptable to any contingency and more readily deployable. Of course, well before 9/11, the Army recognized the need to restructure its forces, to achieve a better balance of firepower and deployability, and had already begun the process. The Global War on Terrorism has increased that urgency.

The Army of the past, designed around the division as the principal fighting command, was routinely broken up into Brigade Combat Teams for deployments. Modularity recognizes this and seeks to formalize and optimize the Brigade Combat Team as the Army's new primary building block. The new BCTs are smaller, allowing a greater number to be organized without a major increase in end-strength. The modular redesign will also increase the number of regular Army brigades from 33 to at least 43. This will reduce the deployment tempo of each brigade, and increase available training time.

Prior to modularity, the Army consisted of a wide variety of very diverse units. Even divisions had evolved so that each had a nearly unique organization. This hindered the ability to quickly organize a force package tailored to the needs of the combatant commander. As the name implies, the Army Modular Force consists of standardized units that can be readily exchanged with each other as required. They're self-contained and organized to provide the full range of mission capabilities. This will allow the Army to rapidly create and deploy a force custom-designed for any contingency, using uniform building blocks with clearly recognized capabilities.

Another key to modularity is that the traditional functions of the Army Service Component Command—corps, division, and brigade—are reallocated among the new modular commands. There will no longer be a fixed hierarchy among command echelons. They will be organized more along functional lines, with some overlap in their abilities.

Only those echelons required by the specific contingency will be used, and other echelons can be easily skipped when they aren't needed. So the combatant commander will get exactly the structure he needs for the mission at hand.

During the period that the new designs were being developed, a new set of terms was created to help separate unit functions from the unit designations that traditionally perform those functions, as Dr. Stewart pointed out. It was this at-

tempt to break the old mind-set that gave us the terms Unit of Employment (UE) and Unit of Action (UA). The fact that new terminology was needed to help make this conceptual break demonstrates the power of unit designations, and shows that names really do mean something.

Although the terms UE and UA are helpful for their purpose, they've always been intended as temporary aids to thought and discussion. They were never intended to be permanent names for units. The Army staff has been clear in its intent to replace these terms with real, recognizable unit designations in the final designation plan, and in fact, their replacement has already begun, as I'll discuss later.

There are two main types of Units of Employment—the UEx and the UEy. The UEy functions as a theater-level command; it's geographically focused in a line with the regional combatant command. It combines the traditional administrative functions formerly associated with armies and corps.

In addition, the UEy has embedded joint capabilities, so it can operate as a Joint Force Land Component Command, or JFLCC headquarters, or with the Joint Task Force Headquarters itself. The UEx is the principal Army Forces Operational Headquarters in the Modular Force. The UEx can also function as a JTF (Joint Task Force) or JFLCC headquarters, with minor augmentation.

It conducts operations through command of subordinate maneuver and support brigades, combining many of the operational functions of the old corps and division.

In garrison, the UEx also has training and readiness responsibilities for maneuver and support brigades. However, the brigades are not organic elements of the UEx. It'll deploy with whatever brigades are ready in the force generation cycle, regardless of the patch or the home stations of those brigades.

There are two types of UEx—the operational UEx with the three-star commander, and the tactical UEx with the two-star commander. They're organized and employed very similarly, but the operational UEx can be more quickly applied in certain joint and multinational contingencies, where a three-star command is called for.

Now the Units of Action. There are a variety of Units of Action which are brigade-sized units and are the basic building blocks of the Army Modular Force. Some are maneuver UAs, or Brigade Combat Teams (BCTs). There are three types—infantry, heavy, and Stryker BCTs. Others are support brigades. I'll describe the BCTs first.

The Brigade Combat Teams are designed to incorporate as organic elements the assets that used to be controlled and distributed by the division. By formally organizing the BCTs with the structure and assets they'll fight with, they're also trained and resourced according to that structure.

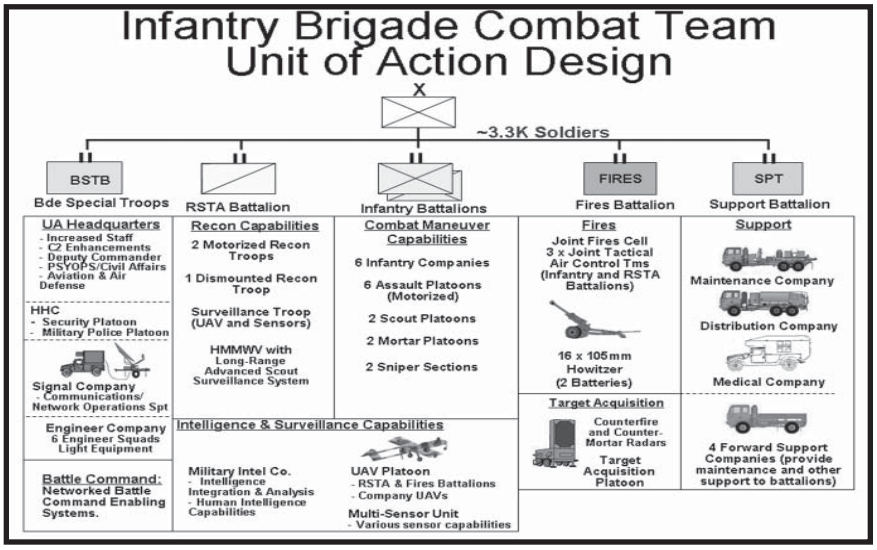


Figure 1

The infantry BCT (**Figure 1**) consists of two infantry battalions, each with three rifle companies and a weapons company, a reconnaissance, surveillance and target acquisition, or RSTA squadron, with two motorized recon troops and one dismounted recon troop; a fires battalion with a target acquisition platoon and two firing batteries of towed 105mm guns; a support battalion with distribution, maintenance, and medical companies and four forward support companies, one for each infantry, RSTA, and Field Artillery (FA) battalion; and a special troops battalion, which includes the brigade headquarters company and many of the assets previously controlled at the division level, including engineer, signal and military intelligence companies, and military police and chemical platoons.

So you can see how a BCT is a permanently structured, self-contained, combined arms team. We used to have to task-organize to get all these functions together in a Brigade Combat Team; now, it'll be permanently organized that way.

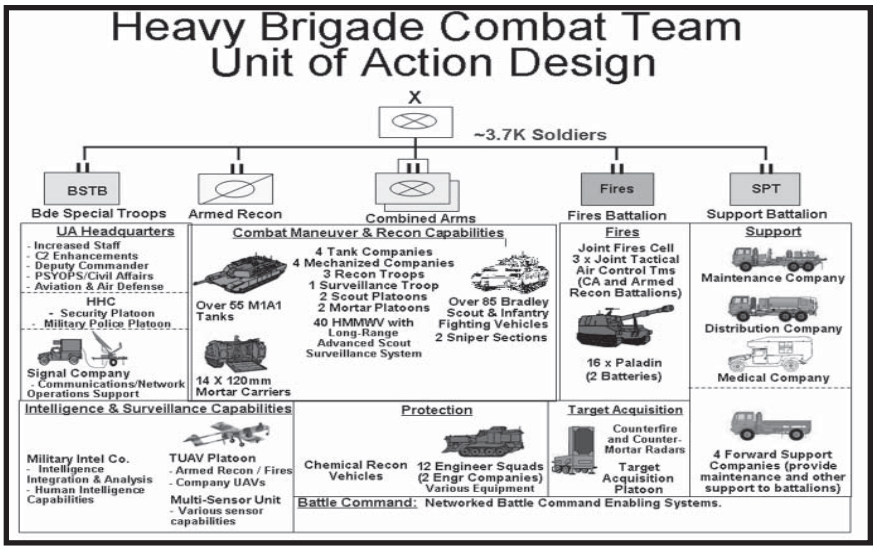


Figure 2

The heavy BCT (**Figure 2**) consists of two combined arms maneuver battalions, each with two mechanized infantry companies, two tank companies, and an engineer company; an armed reconnaissance squadron with three mounted recon troops; a fires battalion with a target acquisition platoon and two batteries of self-propelled 155mm guns; a support battalion with maintenance, distribution, and medical companies, and four forward support companies for the combined arms, ARS and FA battalions; and a special troops battalion with the brigade headquarters company, the signal company, and military intelligence company.

The third type of maneuver brigade is the Stryker Brigade; it's included as a Modular Force BCT, but it's really a holdover from the initiative begun prior to modularity, and it's organized very differently from the heavy and the infantry brigades. Dr. Charlston will be addressing the Strykers in his presentation, and I'm going to leave that to him.

There are also five types of support brigade Units of Action (**Figure 3**). Multi-functional aviation brigades provide tactical aviation, including reconnaissance, attack, assault and lift, and MedEvac. Fires brigades provide artillery and other fire support. Battlefield surveillance brigades provide reconnaissance surveillance, target acquisition, and intelligence operations. Sustaining brigades control support and sustainment operations. And maneuver enhancement brigades are designed to provide protection for the force and preserve its freedom of action.

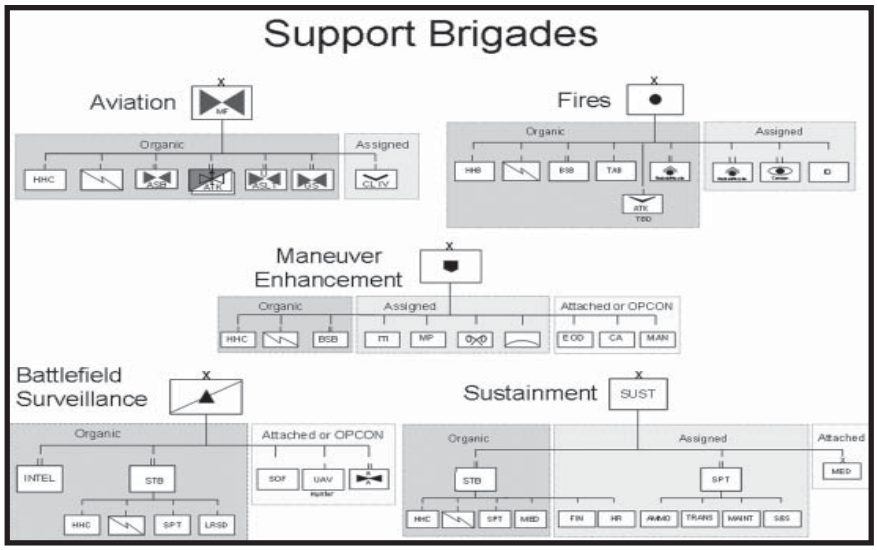


Figure 3

Of these support brigades, only the aviation brigade has a fixed structure. The other types are designed as fixed headquarters, to which subordinate elements are assigned or attached as needed, from an Army-wide pool of available units.

Upon deployment, the composition of these brigades is determined by the mission requirements. You can see how the support brigades are organized here.

I can't detail them all, but I would like to point out the maneuver enhancement brigade's assets, because it's particularly interesting. It combines the fixed headquarters, signal company, and support battalion, with assigned and attached engineers, military police, chemical, air defense, ordinance disposal, and civil affairs. It can also provide operational control of maneuver elements when required, but its focus is on the protection of the force's ability to maneuver. This is the first time the army has formally structured an organization to focus on this mix of functions, and this kind of functional alignment is one of the hallmarks of modularity.

In addition to these support brigades, there will be a variety of additional support units at the UEy level, to provide and augment the pools that these brigades draw their units from.

Now I'd like to discuss the Center of Military History's (CMH) involvement in designating the Modular Force Units. Because unit designations create a link between current force structure and the lineage and honors of historic units, it's

the responsibility of CMH, and the Center's Force Structure and Unit History Branch in particular, to provide unit designations throughout the Army.

In February 2004, TRADOC's Task Force Modularity contacted the CMH to say they had reached a point in their work where it was appropriate to look at how the units would be officially designated, and they asked us to design some options. From the huge array of possibilities, CMH developed some courses of action that we felt would represent various directions that the Army staff might choose to go, and that also were fully feasible to implement.

There were three primary goals, as we looked at these options: Preserve historic units, limit turbulence, and reflect the new modular structure through the unit designations. But if you think about it, you can't really maximize all three of those goals at the same time; to maximize in one area, you've got to be willing to compromise in another. So the courses of action that we looked at tended toward the various mixes of those three goals. In addition, we decided that the current methods for designating units at the battalion level and below could still be applied to the modular forces, regardless of the designations used at brigade level and above.

So in order to preserve regimental lineages, in each option, combat arms units would continue to use the US Army regimental system designations, and non-combat arms units would continue to use their traditional designation types. It doesn't mean that the units at the battalion level and below would retain their current designations and specific designations; just that they would use the same kinds of designations. For example, fires battalions would be designed as field artillery; RSTA and ARS (Armed Reconnaissance Squadron) squadrons would be designated as cavalry. The combined arms battalions and the heavy BCTs would get one infantry and one armor, in order to preserve both infantry and armor regiments.

Now I'll describe some of the options CMH came up with for designating the Modular Force. For example, if the primary goal was to limit the changes made to the current designation structure, we could adapt the same designation patterns the Army's used essentially for the past 50 years, with minimal changes.

In such a course of action, the UEys could be designated as armies or corps, the UExs as divisions, and the maneuver BCTs as divisional brigades—1st Brigade or 1st Infantry Division; that's essentially what we do now. The benefits of adapting this system to the Modular Force are that it's the least disruptive to implement, and would be easily recognized, due to its familiarity. The downside is it doesn't really communicate the depth of change taking place in the Army. In fact, this minimum change option is the designation plan CMH was already implementing as the 1st Divisions underwent the modular redesign. Because the

Army was converting these divisions before the overall designation plan was approved, we had to come up with some interim solutions to designate the units as they were redesigned. We'd already been working with G3 on the 3d Infantry Division redesign since December of 2003, so during 2004, we were designating the converting divisions with interim designations, according to this minimum change option, and at the same time, we were working toward a decision on the Army staff's desired long-term solution to modular designations

Another possible designation plan we looked at would be to return regimental headquarters to the force, and designate the UAs as regiments rather than brigades. In this course of action, the UEys could be armies or corps, and the UExs divisions. We characterized the UAs as hybrid regiments, because rather than designate every organic element as part of the same regiment, only the two maneuver battalions and the special troops battalion would share the regimental designation. This was done to preserve the lineages of cavalry, field artillery, and support units, that would otherwise be inactivated and subsumed under the regimental designation. So the UAs end up looking more like regimental combat teams than fixed regiments, under this option. The benefits of this option are that it gives the UAs their own identity, and helps clarify the new relationships in which the division does not own the subordinate echelons. At the same time, it retains the current division lineages. One major disadvantage of this course of action is the number of regiments that would have to be removed from the force, since both maneuver battalions in each regiment would be from the same regiment. In a brigade, you can perpetuate a different regiment with each battalion. So approximately 25 percent of the current infantry and armor regiments would be dropped from the force, in this regimental option. Other drawbacks are the amount of reflagging required at the brigade level and below, and the degree to which it focuses the UA designations on combat arms, despite the significant number of CSS soldiers in the organization.

Yet another option we looked at was almost the opposite of the minimum change option. It uses changes in designations as a way of underscoring the structural changes of modularity. In this course of action, the UEys could be armies, the UExs designated as corps, and the maneuver UAs as brigades that perpetuate either divisional headquarters or separate brigade lineages. For example, you'd have the 1st Infantry Brigade wearing the big red one, or the 82d Airborne Brigade wearing the All-American. The division echelon would drop from the force in this option. Obviously, this is a radical option, but it strongly emphasizes the new functional distinctions between the UEx and the UA, and clearly signals that a major change has taken place in the Army. Also, because the currently active divisions would only flag 10 of the 43 brigades, this option would allow the return to the force of many division and separate brigade lineages that are currently

inactive, but are historically significant. The downside of this course of action is the huge number of reflaggings involved, especially if you want to flag the battalions under the UAs with designations that relate historically to the brigade that they're assigned to. You'd almost have to reflag the entire Army to make this work, but when you were done, the designations would definitely match the modular structure.

So those are the kinds of options that CMH was looking at. In the spring and summer of 2004, General Brown briefed possible designation plans to a variety of decision makers and interested parties on the Army staff and elsewhere. Interest was routinely high and we got a lot of valuable input. In September 2004, an initial brief was presented to General Schoomaker, who directed CMH to work up charts with specific designations for all units down to the battalion level. He also directed that a blue-ribbon panel of senior retired general officers be established to review the options and provide him their thoughts.

The blue-ribbon panel was convened and briefed, and in January 2005, provided its recommendations to General Schoomaker. The panel recognized that various options were feasible, but they strongly recommended following the course of minimum change. They felt that the conditional designation methods carried too much value, tradition, and meaning that would be lost under the other options, and that changing the basic way Army units are designed is not necessary to communicate the changes of modularity. They felt that since divisional brigades are already being task-force organized, and serving under the command of division headquarters other than their own, that the Army would quickly adapt traditional designation methods to the new modular force. They also believed that there were enough changes and stresses on an Army transforming during wartime that a dramatic change in unit designations would be counterproductive and distracting.

The Army staff ultimately agreed with these arguments. Based on the recommendation of the panel and the direction of the Vice Chief of Staff, CMH presented a new series of briefings to General Schoomaker and the Army staff, with variations on that minimum change option. The variations reflected input from the staff principals. This recently resulted in a set of decisions by the Chief of Staff regarding designations in the Army modular force. Not all the decisions have been made and not all the decisions that have been made are ready to be announced, but last week, the announcement was released regarding the regular Army UExs and maneuver BCTs. I have a few copies of the transcript of that announcement that I can set out for anybody who'd like to read them, and it's also available, you can link to it from the Army home page.

In the approved plan, the operational UExs will be designated as corps, the tactical UExs will keep division headquarters designations, and most maneuver BCTs will be designated as divisional brigades. There will be four brigades wearing the patch of each division, plus four nondivisional brigade-size elements in the regular Army. These designation decisions were linked to stationing decisions, as you can see on the map. The chief decided to co-locate the brigades with the division headquarters that they share patches with, to the extent possible. This is to provide a cohesive focus for training, readiness, and force generation cycles, and to give the brigades a sense of home base (**Figure 4**).

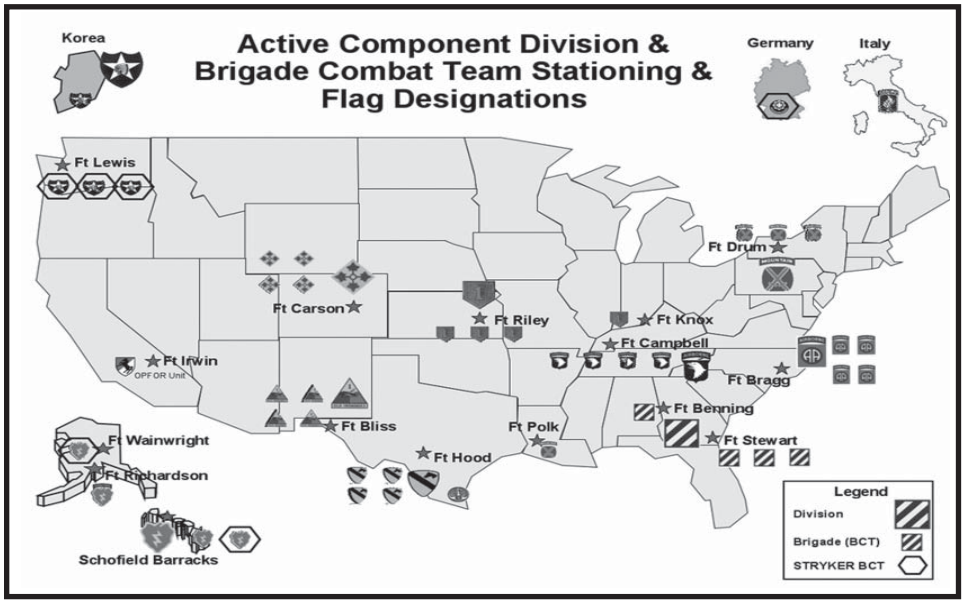


Figure 4

You can see on the map that the 2d Infantry Division in Korea and Fort Lewis and the 25th Infantry Division in Alaska and Hawaii have a Pacific orientation, with the current 172d Infantry Brigade in Alaska replaced by a brigade of the 25th. Other divisions are concentrated as follows: The 1st Armored Division of Fort Bliss, 1st Cavalry Division of Fort Hood, the 1st Infantry Division of Fort Riley, with a brigade at Fort Knox, the 3d ID at Fort Stewart, with a brigade at Fort Benning, 4th ID at Fort Carson, the 10th Mountain Division at Fort Drum, with a brigade at Fort Polk, 82d Airborne at Fort Bragg, and the 101st at Fort Campbell.

The four nondivisional brigade-level units are the 173d Airborne Brigade in Italy, the 2nd Cavalry Regiment in Germany, the 3d ACR at Fort Hood, and the 11th ACR at Fort Irwin, which is really a brigade minus.

CMH is currently working with G3 action officers to establish a time line for the unit reflaggings necessary to implement the Chief of Staff's plan. We're also working with National Guard to align their designation with the Chief of Staff's decisions.

This is essentially where things stand today. Thank you.

The Evolution of the Stryker Brigade—from Doctrine to Battlefield Operations in Iraq

Dr. Jeff Charlston - Center of Military History

As Dr. Stewart mentioned, this is actually a summary of a pamphlet that is currently under preparation at CMH, by myself and Lieutenant Colonel Mark Reardon. That pairing was deliberate, to pair an academic background with a combat arms officer. Actually, I am here giving the brief, focusing largely on combat arms action with the Stryker.

The SBCT, the Stryker Brigade Combat Team, is the hallmark of General Shinseki's Transformation effort—capital T—and an interesting stage in the development of the future force as the interim force—linking the Army of a few years ago with the Army we hope to field in the increasingly near future.

We have already heard from General Scales about doctrine driving technology. We can see that quite clearly in the Stryker Brigade, as it was developed initially with off-the-shelf technology, and what I'm going to do is walk you through very quickly the history of the Stryker Brigade as it took the field, specifically, the first Stryker Brigade, not the subsequent units.

Now, of course, being a historian, trying to draw the actual starting point for any concept or idea is a challenge. We took a few points that are fairly substantial in the development of the Stryker (**Figure 1**).

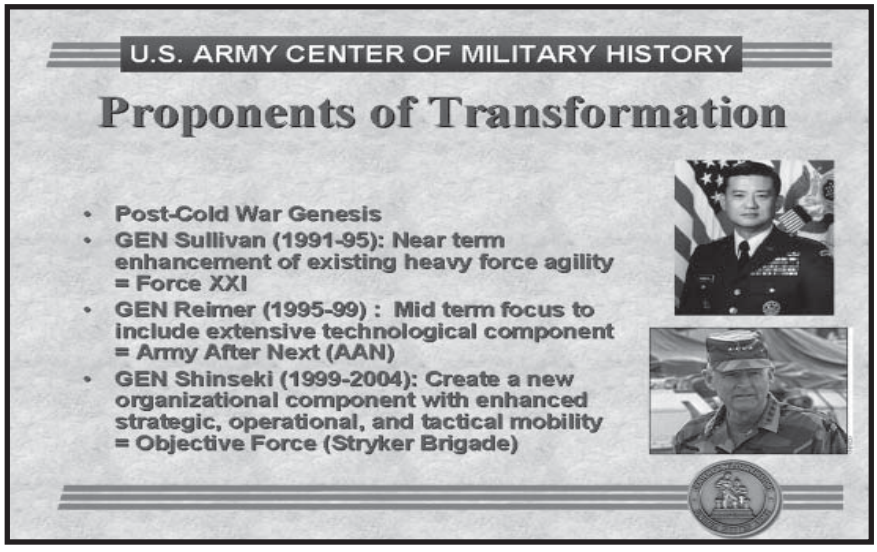


Figure 1

The current Army transformation can really be traced back to Chief of Staff Sullivan, with his efforts to adapt the post-Cold War Army to the emerging 21st century, and the problems the Army experienced with Desert Shield. Specifically, ground forces began arriving to execute Desert Shield very, very quickly. But it took some months before the Army could actually assemble enough weight of arms material, men in theater, to conduct Desert Storm.

Looking at this situation, General Sullivan launched the General Headquarters Maneuvers, or the Modern Louisiana Maneuvers, to try to get the Army to begin developing experimental concepts, doctrine, new ideas, new ways of approaching the future. Very shortly thereafter, Secretary of Defense Les Aspin launched, of course, the Bottom-Up Review, which called for a complete review of US military strategy

These ideas really merged in the Army as Force XXI. It was to be, of course, the Army of the near-term future to be fielded circa 2010, integrating advanced information technology into current systems—upgrades of existing hardware.

Essentially, Force XXI digitized the existing or legacy force into an interim force, and the Stryker Brigade has become the first unit of that interim force.

When General Reimer replaced General Sullivan, he took the next logical step, looking beyond the Force XXI structure to the Army circa 2025, integrating not only updated information technology, new business practices, new ways of managing the Army, but new systems entirely. General Shinseki came into office as Chief of Staff with this background in mind, took a good look at all these ideas, which had been circulating in the Army for almost a decade at that point, and decided it was time to move.

Now, the first speech of any new Chief of Staff at the AUSA Conference is always worth hearing. General Shinseki's speech in October 1999 was particularly interesting in that he decided the Army was going to start moving and start moving now. He established a number of clear-cut goals and directives. One of the most challenging was that the Army would stand up a prototype unit of the interim force, using off-the-shelf technology, and have it in place at Fort Lewis, Washington, for the end of that year. To say that creating an entirely new brigade within a year is a challenge is putting it somewhat conservatively.

General Shinseki also identified some specific features of this new brigade. It would be medium weight. It would be able to bridge the light and heavy capabilities gap, which had been a problem for Desert Storm/Desert Shield. It would be based on off-the-shelf technology entirely, perhaps using a medium-weight wheeled vehicle. The entire brigade would be developed with an eye to reducing its logistical needs, to reducing its overall tooth-to-tail ratio, and to producing a

full spectrum force, capable of executing any mission the Army might be required to perform.

The Army launched a very ambitious schedule to implement this directive. Having established its plan to do so in slightly less than 60 days, the transformation would begin with a then-Bradley-equipped infantry brigade—3d Brigade, 2d Infantry Division at Fort Lewis. The time line is up there, and was almost impossible to meet (**Figure 2**).

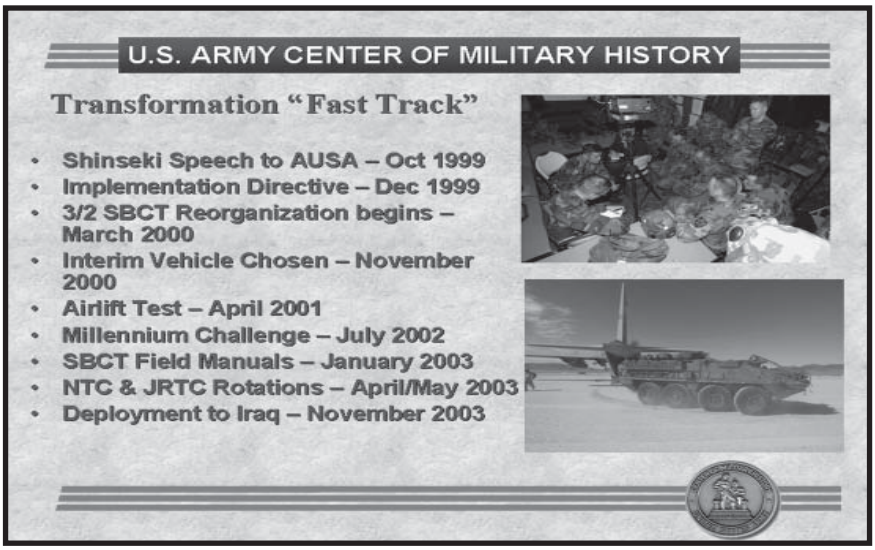


Figure 2

This entire process saw doctrine and training and equipment developing hand in hand, and occasionally getting ahead of itself in the process. For example, the signature vehicle of the Stryker Brigade did not exist when the brigade officially transformed—took on its new shape. It used surrogate vehicles, and not only surrogate vehicles, but it hadn't identified a single surrogate vehicle. At the same time that some 35 contenders for the honor of becoming the unit's new mount were being assessed, the unit was employing a good number of those surrogate vehicles in actual training—developing them, testing the doctrine.

To summarize this process quite rapidly, well, you can see, going here, March 2000, the reorganization officially begins, before the doctrine exists. Vehicles are turned in; surrogate vehicles are adopted. The interim vehicle is not chosen until near the end of that year—beyond the end of the fiscal year. The Stryker Brigade Combat Team met General Shinseki's deadline; it did exist by the end of the fiscal year he initially launched it in, but it did not have any of the vehicles,

it did not have any of the doctrine, it did not have any of the established training that would eventually extinguish that brigade. Despite that, the brigade made extremely rapid progress.

The first airlift test, April 2001, began to certify one of its important abilities—being able to deploy with C-130 airlift, tactically. MILLENNIUM CHALLENGE, referred to earlier, was really the debut of the Stryker in a large-scale test. It performed surprisingly well. One of the decisions that might have been, in retrospect, a mistake for the Army happened in 2002. The vehicle had been selected, and by 27 February ‘02, that vehicle did have a name: Stryker. The brigade had become synonymous with the vehicle; the hardware was defining the brigade, in many minds, and by 1 July ‘02, the brigade was officially labeled the Stryker Brigade—after its signature vehicle. It’s important to note—and always remember—when discussing one of these brigades, that the brigade is not the vehicle.

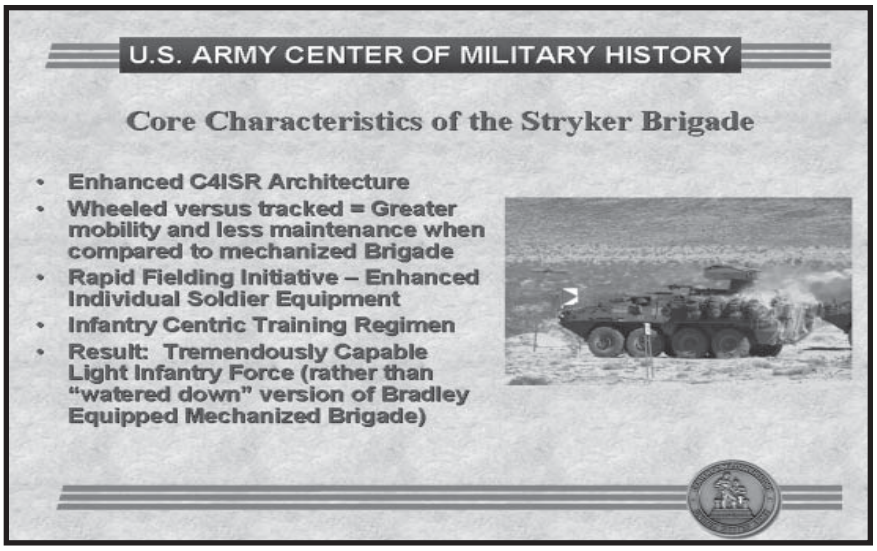


Figure 3

What are the core characteristics of the Stryker Brigade Combat Team (SBCT) (**Figure 3**)? Well, number one—reminding yourself that the Stryker vehicle is not the brigade—the soldiers of the first Stryker Brigade refer to this combat vehicle as their truck. This is an important mind-set: The Stryker vehicle is not a combat vehicle; it is not Bradley-Light.

This also had some advantages for the first SBCT. When they went to the National Training Center (NTC) for the first time, both the opposing forces (OPFOR) and the controllers were not quite familiar with this distinction between the

vehicle and the brigade bearing its name—they expected the first SBCT to maneuver like any other Bradley unit. Exploiting this advantage over the OPFOR, the brigade stationed itself, in traditional Bradley fashion, lured the OPFOR into attacking the Bradleys, and falling into the path of a nice, prearranged ambush, using Javelin missiles. OPFOR was defeated in the SBCT's first field at NTC. It is important to remember that this is not a Bradley unit.

The advantages of the Stryker unit developed not only from the vehicle but from the other aspects of the unit. Its enhanced C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) architecture connects not only the Strykers, but the support vehicles—everything associated with the unit. It allows the commander to have an unparalleled picture of the battlefield. FBCB2 is throughout this brigade.

The wheeled vehicle allowed this unit to be extremely mobile—agile; it can go places where tracked vehicles simply cannot—it is quiet on the ground, allowing the commander to exploit this as a tactical advantage. Due to the rapid fielding initiative, the Stryker unit was able to obtain advance technologies, technologies that had not been used in a line unit before. It adopted a lot of special operations material, techniques, and training. Special operations training can be found written right into its doctrine as well. This is an unusual unit.

Although formed out of a mechanized infantry brigade, it became very much a foot infantry-centric training regiment. The vehicle is used as the brigade's truck—it delivers the troops to combat; they fight on foot. The result, overall, is a tremendously capable flight infantry unit, with every soldier in that unit, courtesy of the FBCB2 (Force XXI Battle Command, Brigade and Below) and enhanced electronics, to serve as a potential shooter able to call fire.

The Stryker vehicle was only one of 570 lines of new equipment to be incorporated into the brigade. And of course the Stryker Brigade became the first of the new UAs to really take the field, in its structure (**Figure 4**), laid out there, based on three infantry battalions, a RSTA squadron, which also, of course, is mounted on the Stryker, with fewer dismounts—this becomes significant in operations later—enhanced military intelligence, awareness. All the attributes we're looking at in the modular Army are there in Stryker brigades.

Now, when General Shinseki set the Army on the course of fielding this new type of unit, the Army was at peace; we had a window of opportunity where the Army could concentrate on such things as fielding new units. But, by the time the Stryker unit began to approach operational readiness, we have an Army at war.

The Stryker Brigade also faced a unique challenge. Immediately before deploying, almost every senior officer in the brigade was rotated out—within

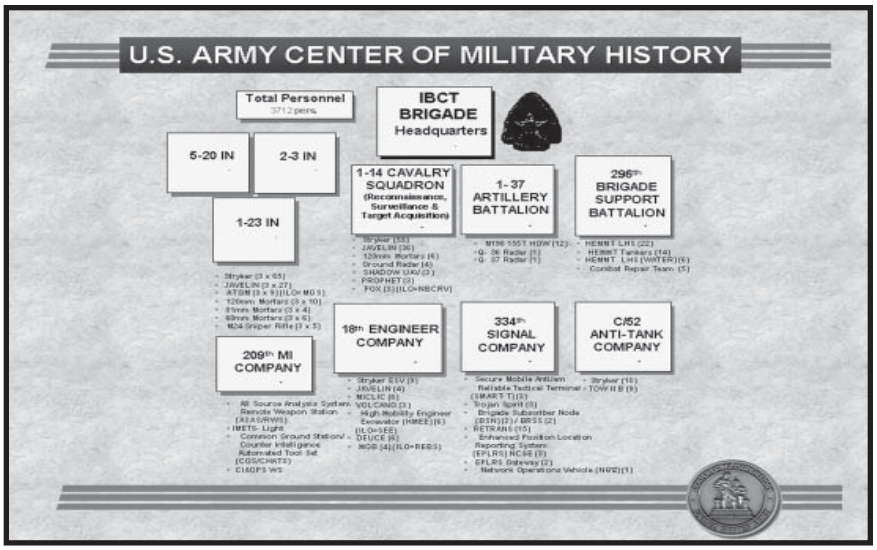


Figure 4

60 days of its departure. Despite that handicap, the brigade managed to deploy without significant incident.

To give you an idea of the speed this whole thing happened with, it had been decided, or determined that the Stryker vehicle had a vulnerability to Rocket Propelled Grenade (RPG) fire—you-all heard of the bolt-on armor problems, I'm sure. Slat armor was rapidly developed as an alternative. It proved very effective, but it could not be manufactured in time to equip the unit before it deployed; it actually had to be mounted in theater.

The Stryker Brigade deployed directly from Seattle on two LMSRs (large, medium-speed, roll-on/roll-off ship) in October; troops followed by airlift. It was initially intended to replace the 101st Airborne Division in the vicinity of Mosul—one brigade to replace a division. That's not entirely true, however, and I'll get onto that in a few minutes (**Figure 5**).

When it arrived, it conducted the routine procedures, added the bolt-on armor—excuse me, the slat armor—and proceeded to cross into Iraq. The brigade did not replace the 101st Division itself, but getting into the modularity concept, it formed the core of what would called Task Force Olympia—a total force of some 8,000 troops replacing the 24,000 personnel of the 101st, in control of a city of some 1.8 million people.

This was done by using an SBCT battalion to replace the each 101st brigades, except inside the city, where two battalions were used to replace the 101st 2d Brigade. The sheer size of Mosul meant that two of the three infantry battalions

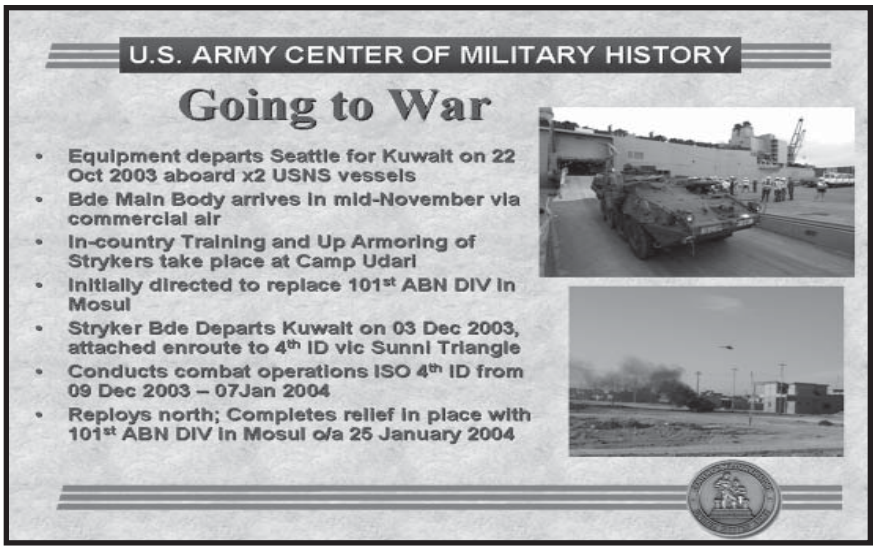


Figure 5

were positioned there permanently—the 1-23d and 2-3d. This arrangement—and probably for no other reason—meant that the 5-20th became the action battalion for the brigade—it got a lot of the emergency calls and wound up chasing hither and yon across Iraq.

In addition to its security duties, of course, the brigade also formed security locally, executed the rebuilding missions, the public relations, public affairs—all of the important functions that are going on behind the scenes that don't draw the attention that combat does, including training the Iraqi National Guard. The brigade performed this mission magnificently, but I'm not going to address it in this forum. Realize that that's going on, and while all this is happening—this single brigade is replacing a division, and executing this mission.

Very early upon its arrival in the theater, the Stryker Brigade earned a reputation for its ability to move fast, to adapt, to respond to changing conditions. It became, in the course of its one-year deployment, Combined Joint Task Force 7 (CJTF-7)—well, the term used here is fire brigade—the unit of choice whenever anything changed within theater: "Where is the Stryker unit? What does it have available?" (**Figure 6**)

For instance, immediately upon crossing into Iraq, rather than joining the 101st, it was attached to the 4th Infantry Division (ID) in Samarra. This was required by, of course, the problems that the 4th ID was encountering in Samarra at the time. After that situation was-certainly not rectified, but reduced in significance, the initial idea, initial tasking prevailed; the first SBCT went off to Mosul,

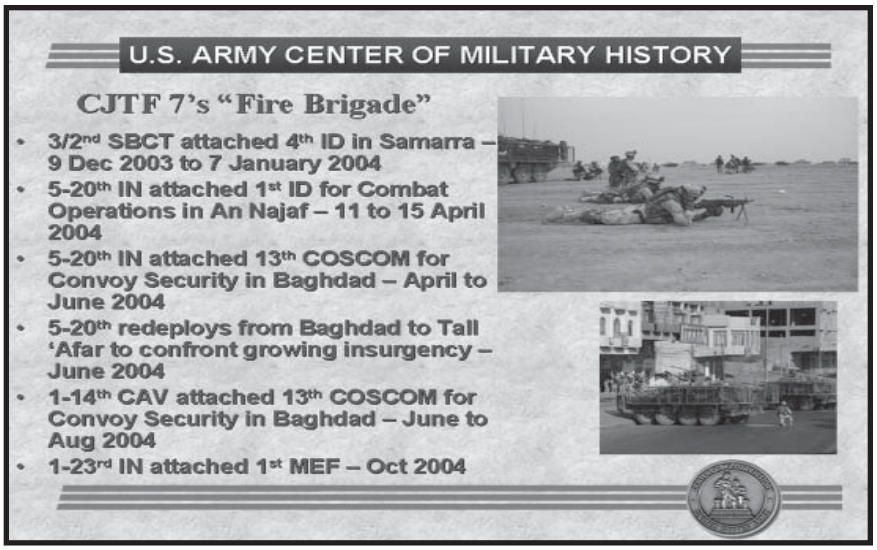


Figure 6

replaced the 101st, as planned, and remained there as a brigade throughout most of its deployment, while the 5-20th Battalion, because of the deployment outside the city while the 1-23d Infantry and 2-3d Infantry were within Mosul itself, was the unit most readily detached for other assignments.

The 5-20th received a number of such assignments as CJTF-7 came to appreciate the capabilities of Stryker units. While the rest of the brigade conducted stability and support operations and trained Iraqi units around Mosul, the 5-20th saw action elsewhere. Its first assignment was 11-15 April, joining the1st Brigade, 1st Infantry Division's strike into An Najaf. To accomplish this the battalion reconfigured as Task Force Arrow on 10 April, now containing three Stryker companies - one of its own, one from the 1-23d, and one from the 2-3d. The reconfigured battalion immediately deployed on a 400km, 15 hour drive to Forward Operating Base (FOB) Warhorse, north of Baghdad.

This mission really demonstrated the speed and flexibility of the SBCT's components. At 0001 on 12 April, now attached to the 1st ID, the battalion set out on a 36 hour, 500km road march to An Najaf.

While it was conducting that march, it escorted some 103 vehicles that it had picked up on the fly and integrated into its own formation, using FBCB2-equipped Strykers on either ends of, you know, chains of the 103 vehicles from the 201st FSB (Forward Support Battalion). En route, in addition to the countermobility efforts which included destruction of bridges, mining attempts, improvised explosive devices (IEDs), two actual ambushes were encountered, and

the only losses in this march were one soldier from the 1st ID killed, and two wounded. The Stryker Brigade proved a very efficient transit security force, and it was detached and reassigned on a few occasions, to actually divide [sic, provide] route security, including a longstanding mission for the 5-20th in that role (**Figure 7**).

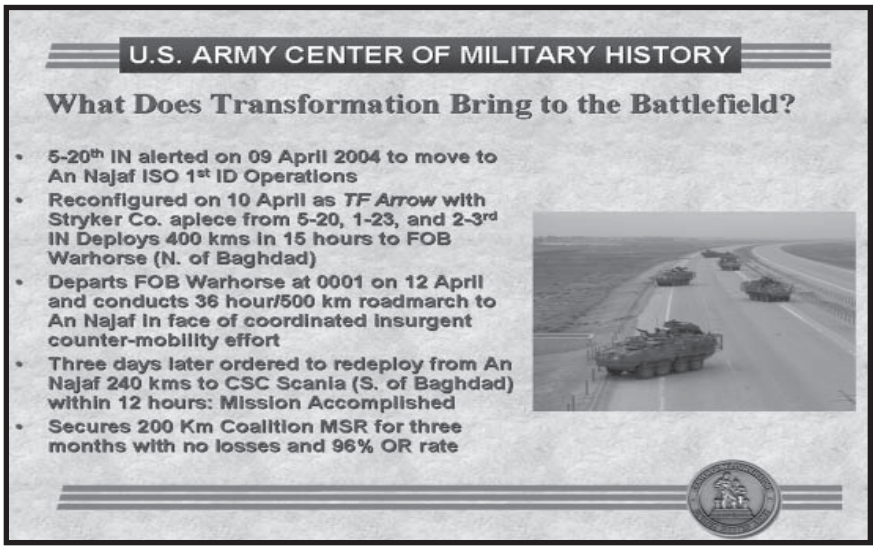


Figure 7

The SBCT proved extremely rapid, agile, lethal, survivable, and above all, sustainable in these missions. One of the nice things about this brigade is that the Stryker uses the same engine as in the FMTV (Family of Medium Tactical Vehicles) family—again, reducing logistical needs. A careful eye to such logistical concerns in its construction resulted not only in a reduction of its physical logistical needs, but its personnel needs, sustainment needs—across the board, this is a lighter, faster organization.

In combating agents itself, the first notable one occurred on 13 December ‘04, when an IED made the first Stryker combat kill, lifting the front of the vehicle entirely off the ground. The vehicle burned, and the only casualty was the driver, in the most exposed position, immediately adjacent to the detonation, who suffered a fractured leg. The vehicle consistently proved remarkably resilient. The slat armor, although developed in only less than 90 days, proved very efficient and effective against RPG fire. The only other Stryker kill suffered by this brigade in the course of its deployment was by RPG, and that was simply because the RPG managed to set fire to some externally stored stores—the vehicle was lost through a secondary fire.

On 15 December, the insurgents encountered the same problem that the OPFOR at the NTC did, when they mistook Stryker for Bradley. The insurgents initially attacked B Company 1-23d, and the quick reaction force (QRF) from Company A of the 5-20th, responded to encounter its own preplanned ambush. The problem is, the insurgents had become very, very used to the 4th ID's Bradleys; they decided to stick around, in strength of about 15 to 20 insurgents, to combat Company A. Company A carried more than two times the total dismount strengths the insurgents were expecting—sufficient to secure the vehicles, use them as a firebase, flank the enemy—you can predict the outcome of that one.

Also during this engagement—again, underscoring the fact that this is not a Bradley—it is force ... B Company 1-23rd, one of the platoons involved became heavily engaged in built-up terrain, and a single member of that platoon made 7 of the 11 confirmed kills that day, using an M-4 rifle and all-purpose optics. I mention this because that man was a sniper. The brigade makes extremely heavy use of snipers and highly skilled marksmen. There is a sniper section in each battalion and a sniper team in each company, usually dispersed out to the squad level, for operations.

The snipers proved throughout the engagement and throughout the tour of duty to be an ideal precision weapon for use in mount terrain—again, General Scales' idea of being able to kill immediately, and with high precision—you can't ask for more precision or more immediate response than snipers, and snipers are throughout the brigade, a more heavy augmentation of a traditional capability,

Figure 8

but again, addressing historical problems by using proven solutions, reducing the wait, reducing the lethality of this unit (**Figure 8**).

On 4 August, a mobile gun system platoon of Charlie Company 5-20th was ambushed in escort. Company B of the 1-23rd responded, and in a six-hour fight, the brigade received 12 US casualties, for an estimated 200 enemy KIA (killed in action).

One of the more interesting engagements of the entire tour occurred on 4 September, and in looking at this engagement, you have to cast your eyes back to the Mogadishu experience of 1993. In this incident, on 4 September, an OH-58 was down by RPG fire in urban terrain, in the midst of an enemy-held area, and of course, enemy insurgent forces began to gather around the downed OH-58. But, the brigade had a preplanned drill for exactly this event, and it was aided by the fact that FBCB2 survived on the Kiowa, provided an exact location. All units converged on the location. A running fight that lasted several hours engaged, but in the course of this fight, in a distinct contrast to the Mogadishu experience, not only were the two pilots recovered, Medevaced rapidly, but with the assistance of some casts and a several-hour engagement, the helicopter itself was withdrawn, no further significant US casualties were encountered, and the insurgents suffered heavy losses.

Again, 9 September, another significant event. The brigade itself executes a preplanned mission in urban terrain, driving enemy from the southwest corner of the city of Tal Afar. That proved the last significant combat action of their employment.

Again, we're going through this rather rapidly. The pamphlet, which will be forthcoming shortly from CMH, will go into this in significantly greater detail, if you're interested in the details of these operations. It's worth looking at. This is a taste of things to come for the Army, not only for the Stryker Brigades, which are following the first SBCT, but for the Units of Action themselves, which are modeling their operations and their doctrine on some of the lessons from the interim force, composed of Stryker units.

While engaged, as I've said earlier, the brigade managed to reform itself into various task organizations several times, reassembling companies, reassembling battalions, reforming itself to meet the mission on—indicating modularity in an echelon below the brigade. For example here, task force sites, for instance, where there was a residual force left behind when the 5-20th conducted convoy security operations in April through June 2004, consisting of one company from the 5-20th, a cavalry troop, a brigade antitank company, and several engineer platoons, but it functioned as an infantry force—a fairly common operational procedure for the brigade.

Total losses for the brigade throughout its deployment were 175 wounded, 13 KIA, another 125 soldiers injured and 13 killed as a result of nonhostile incidents, with a total estimated insurgent losses in the neighborhood of 600 KIA. Again, the loss of only two combat vehicles proved that the Stryker vehicle, despite the warnings of early critics, was an effective combat vehicle, when used as intended by doctrine and training, and when not used as a Bradley surrogate (**Figure 9**).

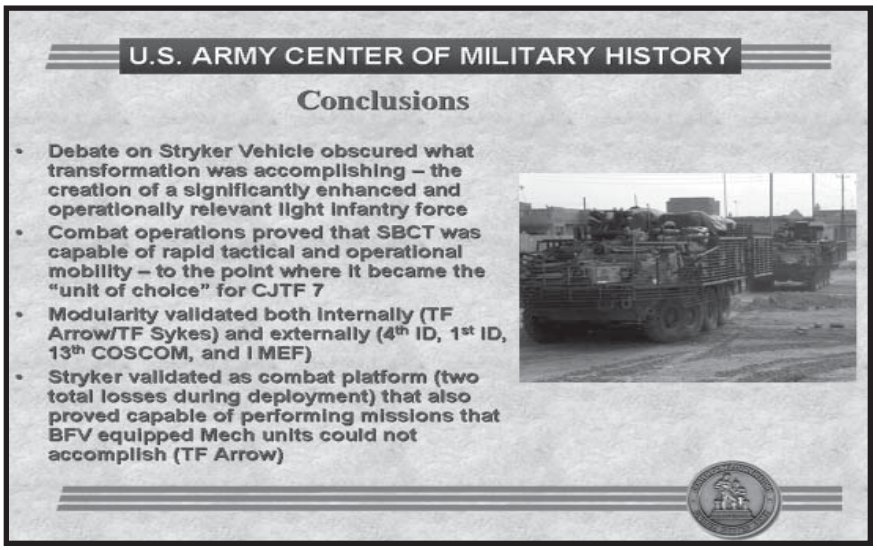


Figure 9

Day 1, Session 2 Question and Answers

Moderated by
Dr. Richard Stewart - Center of Military History

Dr Stewart
As we see the Army evolve and create its future combat systems, whatever shape that may have over the next 10 to 15 years, I'm fairly confident that we'll look back on this experience and other experiences of the Stryker vehicle, as they begin to look at the lessons learned, the procedures, the doctrine that's being developed and growing over time. It's not by any means the final word on the Stryker; it's an evolving system. The tactics—it's almost like a playwright who's having to give the pieces of the play to the players as they're up there on the stage, acting it out; it's not entirely coherent, but the result is an interesting, developing, and organic process.

So now that we've looked at three aspects, at transformations past, in sort of a global sense; modularity, getting down to the specifics of how the Army is trying to implement this new modular force; and one instance of a sort of an early experimental modular Stryker Brigade, we are open to your questions. Sir?

Audience Member
Real quick. You said something really profound. You said that the Army really didn't transform between 1950 and the time it left Europe. But what I find interesting is the Army thought it did, and it sold to everyone else the fact that it did. So I think that's a remarkable statement, and I think I agree with you in part. But AirLand Battle, what you're saying is—I agree with this—really, in many ways, was as much a marketing ploy to make—it's the old wine in new bottles argument that is what you're saying; right?

BG (Ret) Brown
Well, if you take a look at the performance of the 4th Infantry Division in France in World War II, you're hard-put not to see that as AirLand Battle, and I think that AirLand Battle drew most of its vocabulary from historical examples based in World War II and the fighting in France. And I would say that each new Chief of Staff, for, you know, understandable reasons, has to pitch his particular initiative as all new, unvarnished, definitive loop-ahead change for the purposes of making sure that Congress stays sufficiently interested in the funding.

Audience Member
My name is Lieutenant Ronald Jackson. I work in the Army Reserve right now, but I also work in the Center for Army Lessons Learned. One of the key con-

cepts, is going to be the relationship between the military and the civilian. With that in mind, and when we go to modulization, when 60 to 90 percent of some of your logistic bases are in Reserve and Guard, what is going to be the face of the new Army with that mixture? Because that gets into the political aspects of the civilian-military interface real dramatically when you talk about reserving Guard forces as part of the total Army force. So modularity is not just strictly active duty, but also Reserve and Guard, and what is the role of those forces in this evolution in military concept

BG (Ret) Brown
Well, actually, the modularity describes the organization with respect to the wiring diagrams and how it looks, and the organizations that you saw depicted are not just active components; there's a very sizeable number of Reserve component and National Guard formations as well. But there's also, parallel to the modularity initiative, another one that's called rebalancing, and that is intended to reset the balance between the reserve component and the active component with respect to the respective mixes, so that you achieve an end state where an active component soldier could reasonably anticipate a tour every two years or so, and a Reserve component soldier could reasonably anticipate a tour every six years or so overseas. By the virtue of that rebalancing, obviously, those high-demand MOS's are going to migrate more into the active component than they heretofore have been. Yes, sir?

Audience Member
Robert Nosher, a doctoral student from the Union Institute. One of the things I've observed, too, sitting in Washington and watching the discussions on The Hill, there was a panel last week, I believe, that was discussing Guard and Reserve, but I think what they were really talking about was base realignment and closure (BRAC), under the cover of what happens to my Guard and Reserve units back in my home state when you start scrambling my bases? So that's going to complicate the socioeconomic and political aspects of this transformation process, because they're drawing connections, where perhaps they're not drawing them inside the Pentagon.

BG (Ret) Brown
No, no, I think the Pentagon is acutely aware of the emotional implications of every BRAC decision. It's just, you have to start somewhere with your wish list. I do know that the National Guard Bureau has been very energetically engaged with each state, with respect to identifying those facilities within the states that are a National Guard purview, that they're recommending for closure, and

actually the Army National Guard is not getting much flak for the choices with respect to BRAC.

Audience Member
I think that's right; I think they are aware of it. I'm not sure that they're yet sufficiently aware of it inside the Pentagon—I think the hearing was a wake-up call about the level. It's a little higher, I think, than even they were anticipating, especially, I think, in an environment where you have Guard and Reserve units returning home from combat on a regular basis in Northern Virginia, and we just had the 116th come back to a welcome that I don't think they got even during the end of World War II. It's a very emotional issue at the local level, and I've been to their armory, and if you went down there and suggested that armory was closing because of BRAC, it would be an interesting political fight.

BG (Ret) Brown
Yes.

Audience Member
I'm an administrator. I live in Carlisle, Pennsylvania. I had a comment and a question for General Brown. My comment is, General Scales, of course, laid this out as well. It's got the technological change, the sociological, economic change, and strategic change. But it seems to me that when you say strategic change, really, the thing you're talking about that causes the Army to change its doctrine, and the way it does business, is really a change in the perception of who the enemy is—either real or perceived. Each of those waypoints that you mentioned there, the change was occasioned by a change in the enemy—the loss of the Indian threat on the frontier, the Spanish-American War, Philippine Insurrection Period, the threat of domination of Europe by Germany, World War II, it's a global threat, the Cold War, the Soviet global threat. So it's the same, the strategic—what I wanted to point out is the strategic change is really perceived in terms of the change of the enemy that you have. My question was a simple one. You showed a slide there that had the zones of conflict. Was there a part two to that? I did not see the Western Hemisphere on that chart.

BG (Ret) Brown
For the sake of brevity, we designed the slide with the Eastern Hemisphere in mind. If you'd had a counterpart for the Western Hemisphere, your problem area would have been Central America—that's what would have showed up. Perhaps Columbia, and the rest of Latin American would have been blue.

Dr. Stewart
Your point about external circumstances changing, when the enemy changes, necessarily, transformation is going to occur or be accelerated, you can see, with General Sullivan and Reimer, and even the early years of Shinseki, that each of them was trying to jumpstart change in their own way. They had a vision of how they wanted to implement change, and they were pushing it forward, and yet, when did the really significant fast-paced developments occur? Only when the circumstances changed so dramatically that it was obvious, even to Congress, that change needed to be made, and that money needed to be attached to that change. So I think that's an important point.

Audience Member
Yeah, to go back to the Guard issue, I was associated with the National Guard for about five years. The units that I was in had tremendous numbers of police and firemen. And given the emphasis on first responders these days, is anyone kind of looking at and studying demographics of the Guard and Reserve, and how mobilizing those units would impact on let's say the first response capability for those communities?

Dr. Stewart
I think we see state governors and local politicians screaming about that right now, as a matter of fact, because they see half their police force, half their fire department mobilizing, and yet, what are the alternatives? As they look around, they'll say, we're going to discourage these people from joining the Guard and Reserves? They can't do that. To get other people to sign up? Good. Who? At the moment, there is a bit of a crisis in enlistment in both of those things. I mean, people who will put their hand up to be a fireman or a policeman seem to want to put it up again, because they are dedicated public servants. Where's the rest of Americans? Excellent question. Sir?

BG (Ret) Brown
No, I think we have studied it kind of after the fact. I think we were a bit surprised by the extent of that you would have that effect on local communities, because we haven't mobilized on this scale since World War II, and we have never mobilized the National Guard on a continuous basis over an extended period of time, like we're doing right now. I mean, what we're doing now is unprecedented. So I do think that we will evolve into a slightly different demographic as to who constitutes the National Guard. You have two areas where you generate significant problems. One is when you disproportionately draw out folks like those that you're describing; you know, another favorite is teachers. The second

phenomena, of course, is that you have a lot of folks who are in businesses that can't permit them to leave as frequently as National Guardsmen are leaving now.

Audience Member
Sir, given your description of the zones receiving conflict, and given the way you've portrayed the world in terms of future Yugoslavias and Somalias, is the next grand transformation of the United States Army from global conflict back to constabulary?

BG (Ret) Brown
I hope not. What we—and this is a separate debate, but one we were called upon to participate in—was the nature of the force and the extent to which it would be sensible to stand up a full-time, deployable constabulary. We opined that you're better off to have a full-spectrum in force, and to have each of your units capable of multitasking, rather than to have some that are narrowly specialized into either a homeland defense role or a constabulary role. The reason is that no matter how good you are, you never really get it right. You can't anticipate where you're going to need to deploy these folks, and so you wouldn't have the right constabulary force even if you chose, because the one you design for the Balkans is not going to work in Senegal; you know, they're different.

So what you need to do is you need to have each of your forces, each of your battalions, capable of fighting at ether end of the spectrum, and the best model for that is probably the British and what they've done over generations, with respect to manning their constabulary in Northern Ireland, and what they do is they rotate standing units into that constabulary and out, and they're confident that a well-trained unit can adapt to different circumstances with a little bit of retraining.

Dr. Stewart
But perhaps a negative example of that would be the British Army of the '20s and '30s, which was so focused on its colonial policing duties that it turned its back on the need to prepare for a larger conflict, so it was as unprepared as we were, and with greater stakes, perhaps.

Audience Member
If I may come back to that, much of the British secret, and the beauty of a constabulary is, as it was pointed out, killing immediately and discreetly.

Dr. Stewart
And getting the Indians to kill for you too—that helps.

Audience Member
Yes. And in a large organization like yours, which is a demonstratively devolving front, if I may use that—not judgmentally—from the operations and the tactical, from the large, muscular metallic unit to the small, agile unit, it just seems to me that the entire organization—its heavy elements aside—seems to be devolving into something other than an organization [inaudible].

BG (RET) Brown
Yes, but also remember that when you're talking about constabularies, your most important single imperative for an army like our own is divestiture, and as soon as you can stand up native troops who in fact speak the language and know the culture, and have them carry the constabulary responsibilities, the better off you are. Of course, the Philippine Constabulary was our case in point—it was enormously successful. It took a while to stand it up, but we got out of the business. That's what you want to do wherever you end up in the world is you want to get out of that business as quickly as you can.

Dr. Stewart
Of course, I think that means we need at least twice the size Army we have today.

Audience Member
Lieutenant Colonel Farkwolf, Command and General Staff College (CGSC) Instructor, and grad student at Kansas State University (KSU). A question for Dr. Charlston, a technical question. You said that you thought in one case, [inaudible] the Stryker was superior to the Bradley. What was the delta? What was the difference, and what evidence do you have to support that?

Dr. Charlston
This is where I wish Lieutenant Colonel Reardon was here, because he's the real operational expert. But some of the differences pertain specifically to the vehicle and its capabilities. The Stryker Brigade is deployed primarily in urban terrain. The vehicle proved not only able to get into places quietly and quickly, where a Bradley, of course, is going to make more noise and not be able to maneuver as well in the urban environment. There's also the network ability of the Stryker unit itself, which allowed the unit to maximize its inherent flexibility and speed advantages, to produce a very devastating effect. It's a synergistic effect.

Dr. Stewart
Also, I would say, I don't think we're arguing that the Stryker is a better vehicle than the Bradley; what we're arguing is the Stryker was more appropriate for the role it was being used in than the Bradley would be.

Audience Member
That was my question—what's the difference between the systems—and you said it.

Dr. Stewart
Yeah.

Audience Member
It's quicker. Let's say it's more agile. It's slightly more stealthy, but it carries more infantry.

Dr. Stewart
Yeah. It also has a much lower maintenance overhead for covering distances. You know, when you beat up the track on a Bradley, on hard miles, I mean, you were retracking every 1,000 miles; it's terrible. But when you talk about Stryker, you can go 1,000 miles in a pop and not even notice it.

Mr. Bedessem
I think that's something I should point out. For instance, when the 5-20th was doing convoy escort—it was a four-month period—they managed to stay at a 96 percent operational readiness rate.

Audience Member
We carefully followed that—they also consumed a lot of tires, because we put the cage on it and the cage makes it larger, wider than an M-1, things of that nature.

Mr. Bedessem
Right.

Audience Member
Understood. There's trade-offs, but I wanted to see what your evidence was. Thank you.

Dr. Stewart
And in fact, there was one instance where one of the initial commanders didn't want to put the slats on his Stryker—he said he didn't need those things; it made it hard to maneuver, hard to go down through the city streets. He put them on reluctantly; he got hit by RPGs the next day, and he said, "I'm glad I have this stuff; I'm glad you've made me do this. I'm not going to take it off for any reason whatsoever."

Mr. Bedessem
An RPG hit is God's way of telling you you're in combat. [Laughter]

Sinai 1973: Israeli Maneuver Organization and the Battle of the Chinese Farm

John J. McGrath

"In the Armored Corps we take our orders on the move"
- Colonel Arieh Karen, Commander, Israeli 217th Armored Brigade, 1973[1]

This paper analyzes an Israeli mobile operation from the 1973 war in terms of maneuver organization. The operation is the 15-17 October Battle of the Chinese Farm, which, though ultimately an Israeli victory, proved to be very challenging from a command and control and maneuver organizational perspective.

Background

In many ways the Israeli Defense Force (IDF) is the latter-day successor to the German World War II practitioners of mobile armored warfare. After fielding a primarily infantry army in their wars with the various Arab states in 1948-9 and 1956, the success enjoyed in the latter war by the relatively small armored portion of the IDF saw an army overhaul in the years between 1956 and 1967. The result was a force structure giving a more prominent role to the classic blitzkrieg combination of massed armor forces and close air support fighter-bombers. The swift victory in the June 1967 war was won by this combination. The IDF that fought the 1973 war was even more so organized in this fashion at the start of the war, with emphasis on main battle tanks and jet fighter-bombers. Combined arms coordination only went this far. Self-propelled artillery and mechanized infantry were given far lesser roles and emphasis.

Adoption of a combined arms doctrine based on tanks and tactical air support coupled with other factors to give the IDF a far greater combat effectiveness than those armies field by its Arab enemies. These factors included excellent training programs and excellent leadership at the tactical and operational levels. Leaders were well trained and operated under a relatively high leader-to-led ration. For example, of eleven tanks found in a typical tank company, five would have officers as their tank commanders. IDF officers all had to serve first in the ranks and as noncommissioned officers before reaching commissioned rank. The command climate in the IDF stressed initiative, flexibility and leading from the front. Additionally the Israelis trained and fought with a sense of urgency at all times that was usually not found in the armies of their enemies. The Israelis truly believed that their nation's preservation was directly tied to the competence of its military forces.

The Egyptians were well aware of their combat effectiveness deficiencies when faced with fighting the Israelis. Their own forces were far less flexible and had uneven leadership at the tactical and operational levels. Therefore the Egyptians sought to equalize things by indirect means. First they negated the role of close air support by fielding a protective umbrella of massed surface to air missiles (SAMs). IDF main battle tank effectiveness was also negated by the use of massed Sagger anti-tank guided missile systems and RPG-7 short-range anti-tank rockets carried by light infantry. Without its own infantry to push away the ambushing Egyptian infantry, the Israeli tanks would be left to fight off volleys of wire-guided missiles and rockets.

However, the Egyptians planned and prepared their canal-crossing operation in great detail and rehearsed and trained on these details. Upon execution, the Egyptian army was able to follow their plan with a high level of effectiveness. These Egyptian tactical improvements were, however, thinly applied. After the initial canal crossing, the Egyptians would only be able to defend with their Saggers and RPGs under their SAM shield. Offensive operations with their own armored forces proved to display the same organizational weaknesses seen in past wars.

Operational initiative had always been an imperative of IDF operations. But a combination of factors from Israel's political leadership would give the Egyptians the initiative. There was an unwillingness to execute a preemptive strike as in 1967 in order to ensure that the world would clearly see that the Arab states were the aggressor. Additionally, frequent false alarm mobilizations in the period before the actual commencement of hostilities caused pause before ordering another mobilization. As the IDF was composed of about 70 percent reservists from all areas of society and the economy, frequent, unnecessary mobilizations had a disruptive effect making it seem prudent to only call for a mobilization as a last resort. Since the Israelis in general did not believe the Arabs were capable of conducting a massive offensive, the initiative in October 1973 passed over to the Egyptians.

In addition to Egyptian preparations and political decisions providing a leveling effect on Israeli combat effectiveness, the IDF would also display unique internal command and organizational problems in the Sinai in 1973. As commander of the IDF Southern Command, Major General Shmuel Gonen was the corps-equivalent theater commander for the Sinai front in early October 1973. But Gonen was technically junior in grade to his two principal divisional commanders, Major General Avraham "Bren" Adan, and Major General Ariel "Arik" Sharon. As commanders of reserve divisions, before mobilization Adan held an administrative post and Sharon was recently retired, having commencing a political career that would ultimately lead him to the prime ministership. Gonen had in

fact served under Sharon, whose last post had been that of Southern Commander head. Partially because of these quirky command arrangements, and partially because of his hands-off leadership style, a rarity among IDF leaders, Gonen would prove to be a weak theater commander and would be superseded by a more senior officer by the time of the Chinese Farm operation.[2]

Sharon too would prove to be problematic. After having played a key role in both the 1956 and 1967 Sinai campaigns, he was not prepared by temperament to play a subordinate role in 1973. And he would take the traditional Israeli initiative to the point of virtual insubordination in the Chinese Farm operation, using the isolation of his forward forces as an excuse to execute his own agenda rather than the plans of his superiors.[3]

In 1973 IDF maneuver organization was based on brigades. Except for the one regular army division stationed in the Sinai, the division echelon, although envisioned in mobilization plans, in many ways was ad hoc organization. Since 1967 the Israeli armored corps had grown to two and a half times its pre-1967 size. In 1967 the armored division, or *ugda* in modern Hebrew, had operated more as a task force than a permanent unit. This mindset still held in the IDF in 1973 where, with the much larger size of the armored corps, meant a lot more *ugdas* would be needed to control the increased number of armored and mechanized brigades.[4] In the Sinai in 1973, the divisions of Adan and Sharon were reserve organizations.

Israeli armored brigades were theoretically organized as combined arms teams with two tank battalions and a mechanized infantry battalion plus a recon company equipped with tanks and armored personnel carriers (APCs). A battalion of 120mm self propelled guns or 160mm mortars provided fire support. Service support consisted primarily of a medical and a maintenance company. In practice, however, the Israelis usually reorganized their brigades into three tank heavy battalions. Recon and infantry elements, particularly in 1973, were often siphoned off to provide local security, while tank elements tended to be grouped together in massed units.

Similarly the division task forces by design had a mechanized infantry brigade and a recon battalion. But these were often lost to other missions. For example, Adan's division lost its mechanized infantry brigade early in the war when it was detached to fight Egyptian commandos and guard the northern flank of the Sinai front. Before he lost his infantry, however, Adan made sure he took the tanks assigned to the infantry and reassigned them elsewhere.[5] Adan also similarly lost his recon battalion.[6]

The Israeli military was built upon the concept of a small force of regulars and conscripts and a large force of reservists who would be mobilized for national

emergencies. In operational employment, there was virtually no distinction in the use of units of regulars and reservists. In terms of quality recruits and attention devoted to them, mechanized infantry got the short end of the stick. The best recruits were first given the opportunity to volunteer for service in the Air Force, followed by the paratroopers, Israel's elite light infantry force, then the armored corps, meaning tank crewmen. Mechanized infantry, the few non-paratrooper light infantry units and the rest of the combat support and service support arms were a distant last in recruitment priorities.[7]

The topography of the Suez Canal front would effect operations along the 155 mile length of the canal. The Israeli defensive concept was based on this topography and Israeli improvements to it. The defense was designed to defeat local crossings of the canal, not a full-scale crossing along its whole length, an operation the Israelis did not think the Egyptians to be capable of executing. Accordingly, the IDF created and manned 17 strongpoints along the canal, the Bar Lev Line, spaced between six and 18 miles apart. These fortifications were manned with small units of infantry and designed to resist the Egyptians until reinforcements in the form of local reserves in each sector of the front, usually a tank battalion, could come forward to counterattack. Above the local sectors was the Sinai armored division, in 1973 the 252d Armored Division commanded by Major General Avraham Mandler, with three armored brigades and supporting arms and services. In October 1973 Mandler had one brigade forward and two in reserve in the center of the canal front.[8]

Behind the Bar Lev Line, the Israelis had built a series of roads designed to enable them to move and maneuver armored forces around rapidly. These roads were essential because the geography near the canal did not favor the use of armored forces off roads. From the canal to the first high ground, a north-south running ridgeline 6-7 miles to the east, the terrain was flat and generally open, but the sand dunes were deep and treacherous for travel by armored vehicles. Along the canal connecting the Bar Lev fortifications ran the Lexicon road in the south and the Asher Road in the north, the latter being in actuality merely a causeway running between the canal and the swampy marshland of Lake Tinah.

Just behind the first ridgeline 7 miles east of the canal, the Israelis built their north-south running Artillery Road. A farther 18 miles to the east ran the Lateral Road, built upon the second, higher ridgeline east of the canal. Between the ridges and extending eastward from the canal 40 miles into the mountains of central Sinai were deep sand dunes. Additionally near the ruins of the town of Qantara could be found swamp marshes covered by a thin layer of sand. Both the dunes and the marshes could restrict the trafficability of not just wheeled but even armored vehicles. In addition to their three parallel north-south highways,

the Israelis had built or improved numerous roads running generally east-west between these parallel roads down to the canal.[9]

The War before the Chinese Farm Operation

At 2 pm on 6 October 1973, with the western sun in their enemy's eyes, the infantry forces of the corps-sized Egyptian Second and Third Armies conducted an assault crossing of the Suez Canal along its whole length. The Egyptian plan was to cross and occupy a narrow strip of the east bank out of about 3 miles, covered by the SAM umbrella. For the most part, Israeli defensive fortifications (the Bar Lev Line) would be bypassed to provide bait for the Israeli armor to counterattack. In perhaps the most successful river-crossing operation in military history, elements of five Egyptian infantry divisions crossed the canal on 6 October and secured the desired bridgeheads.

Under Israeli mobilization plans, two reserve armored divisions were earmarked for the Sinai. As these forces arrived, they would take over sectors of the front from Mandler. Major General Avraham Adan took over the northern sector with his 162d Armored Division on the morning of the 7th even as his own brigades of freshly mobilized reservists were still arriving, Adan assumed command of Mandler's forces in the north, while his own forces concentrated in an assembly area near Baluza on the coastal road about 12 miles from the Suez Canal.[10] Similarly, in the Central Sector, the 143d Armored Division under retired Major General Ariel Sharon arrived and took over.

On the 6th and early part of the 7th, while the Israelis waited for these reserve armored forces to mobilize and move to the Sinai, Mandler defended the Sinai on his own. His forward brigade was in action immediately with three tank battalions supporting the Bar Lev fortification defenders.[11] After feeding some of their tank battalions separately into the battle, he then deployed his two other brigades to the north and south respectively.[12]

On 8 October 1973, a planned coordinated attack by two IDF armored division (those of Adan and Sharon) against the Egyptian bridgehead at El Firdan, led by experienced, battle-hardened commanders, resulted in two separate uncoordinated attacks by single tank battalions. Each battalion was virtually destroyed within minutes by Egyptian antitank missile and rocket fire.

The Battle of El Firdan, the first theater-wide Israeli counterattack, failed primarily because of command failures. Gonen was unable to effectively control his forces, leaving his division commanders to operate independently and without coordination. Gonen never left his headquarters in the rear and had a poor appreciation for battlefield realities. The orders he gave were constantly changing and conflicting. Confusion, lack of understanding of the enemy situation, and a brief

loss of control caused by subordinate initiative in Adan's division resulted in two divisional attacks being reduced to two separate tank battalion attacks in which each battalion was quickly annihilated. Sharon's division marched around in a big circle during the day and failed to support Adan when help was most needed.

Israeli command and control on 8 October 1973 was poor, and complete disaster was only staved off by the high quality of individual soldiers, tank crews, junior officers, and commanders. Throughout the day radio communications were terrible and unreliable, primarily due to Egyptian jamming efforts.[13] But when communications failed, commanders often did not compensate for it by moving forward to the critical point.

In an epic turnaround a week after the failure at El Firdan, many of the same commanders and units would successfully execute a far more ambitious mobile operation against the same tough Egyptian defenders. Why such a drastic change? There were many factors involved, but the most telling was the placement of retired Lieutenant General Haim Bar Lev as unofficial theater commander over Gonen, who became Bar Lev's de facto chief of staff late on the 9th. Chief of Staff Lieutenant General David Elazar was disappointed both with Gonen's performance on the 8th and with his inability to control Sharon. On the 9th, Sharon had disobeyed orders to stay on the defensive and moved his tanks forward. Bar Lev replaced organizational chaos with a more orderly and effective control over the subordinate divisions. And, unlike Gonen, he made frequent trips to the command posts of his division commanders to get a feel for the situation on the ground.[14]

One of Bar Lev's first decisions was to halt the uncoordinated, piecemeal offensive actions that had marked Israeli operations in the Sinai before his arrival. After the defeat on 8 October, the Israelis licked their wounds and reorganized, learning from their defeat and adjusting to the new Egyptian tactics. Mandler still held the southern sector, Sharon the center and Adan the north. On the extreme north a new division, the 146th Composite under Brigadier General Kalman Magen, was organized from the task force that controlled a variety of brigades sent or retained in the north to secure that vital flank. On the 9th the front had remained relatively quiet except for vain Egyptian attempts to push out on both the northern and southern ends of the line. Now Bar Lev planned to continue the containment operations while gathering strength for an eventual counter-crossing of the canal.[15]

Except for the Quay position (Masrek) in the extreme south and Budapest in the extreme north, only three Israeli garrisons still held out in Bar Lev Line forts: Hizayon opposite El Firdan, Purkin opposite Ismailia and Matzmed opposite Deversoir where the canal flowed into the Great Bitter Lake. The garrison of

Hizayon was captured late on 8 October as the survivors attempted to exfiltrate out. The 35-man garrison of Matzmed held off a large infantry assault on the 8th, but a shortage of ammunition resulted in the fort's surrender on the morning of the 9th. The garrison at Purkin exfiltrated during the night of 8/9 October. They linked up with troops from Sharon's division on the morning of the 9th.[16]

Bar Lev decided, after a meeting with his staff and key subordinates, that the command would remain on the defensive. This pause would allow the build up of strength with personnel replacements and repaired tanks, the gathering of intelligence and the preparation of detailed plans to resume the offensive. Offensive action would only be resumed when the situation was right. Additionally, as the Egyptians continued to attack while attempting to expand their bridgeheads, Bar Lev hoped to wear down their strength.[17]

During this period the Israelis reorganized their forces to adjust to the new Egyptian tactics, placing armored infantry with tank units and bring up supporting artillery. For example, Adan ensured each of his tank battalions had a small armored infantry unit attached to it, with the infantry mounted in the modern M113 armored personnel carriers (APCs) which could keep up with the tanks rather than antiquated World War II era half-tracks. Bar Lev attached a parachute infantry battalion to both Sharon's and Adan's divisions, primarily for use to conduct nighttime security operations, but also to shore up the infantry element in those primarily tank organizations. An additional mechanized infantry battalion was also assigned to Adan's division from the replacement pool.[18]

However the primary source of infantry for the upcoming action would be additional paratrooper battalions attached to the divisions. Paratroopers were the elite of the IDF's infantry troops. Unfortunately such troops, despite their status, had limited experience working as armored infantry and would be made into ad hoc mechanized infantry units by attaching half tracks or M113 armored personnel carriers (APCs) to their units.[19]

The Egyptians continued to move tanks over to the east bank of the canal, with over 800 across by the end of the 9th, and 1000 by the 13th. On that day Mandler was killed by artillery fire while sitting in his command vehicle talking on the radio after visiting one of his brigades.[20] Magen, who had originally been earmarked as his successor, took over the division with Brigadier General Sassoon Yzhaki taking over Magen's command in the north.

While Egyptian plans originally did not call for a large-scale offensive action into the Sinai, a combination of new confidence from the successes of 6-8 October, and a need to apply pressure to support a faltering Syria, changed this. The

Egyptians now planned a massive attack for the 14th, building up and deploying their forces for three days in advance.[21]

The Israelis did not want to try to cross the canal until after the Egyptians attacked. But even with the noticeable preparations, they were not sure if an attack was in the offing. Therefore, Bar Lev determined that the crossing operation would begin on the evening of 15 October if the Egyptians did not attack or right after their attack was defeated otherwise. Time consuming preparations, such as the pulling of Adan's division out of the line, therefore, took place starting on the 13th.[22]

The Egyptians attacked with a force of about 1000 tanks on five main axes: in the north from Qantara towards Baluza; in front of El Firdan (the 8 October battlefield); against the ridgeline called Missouri by the Israelis between Ismailia and the Great Bitter Lake; towards the Giddi Pass; and a double pincer attack at the south end of the Israeli lines. The five thrusts were all repulsed with about Egyptian 260 tank losses to 40 Israeli (of which only two were not repairable).[23]

Adan's division had been pulled out of the line to be in reserve for the follow-on canal crossing operation and Adan had to reinsert a brigade into the line before El Firdan to repulse the attack of an Egyptian armored brigade.[24] The stage was now set for the second Israeli offensive in the Sinai: the creation of a bridgehead on the opposite side of the Suez Canal at Matzmed-Deversoir.

The Battle of the Chinese Farm/ Suez Crossing

Planning for the crossing operation had commenced almost as soon as Bar Lev took command.[25] On the evening of the 9th, Sharon's divisional recon battalion (the 87th), commanded by Major Yoav Brom, had discovered a gap between the two Egyptian bridgeheads, that of the Second Army in the north and the Third Army in the south.[26] The right flank of the former was located at the intersection of the north-south Lexicon Road and the east west Tirtur Road about two miles east of the canal, and a mile north of where it flowed into the Great Bitter Lake near the now abandoned Matzmed fortification. The Third Army's bridgehead began 25 miles to the south below the lake. This left a gap along the lake itself and an unguarded gap of a mile along the bank of the canal itself. In an instance of military serendipity, this gap was centered on the Matzmed area, where the Israelis had built a preplanned crossing site.[27] The Tirtur Road itself, which led right down to Matzmed, had been built and graded to specifically allow the passage to the canal of a unique roller bridge designed to allow tanks to cross to the far bank. Once this gap was discovered, Israeli canal crossing planners worked to exploit it, hoping to get a large body of troops to and across the canal without a serious fight.

During the preparation phase, the IDF had to assemble the necessary river crossing equipment. There were available four types of specialized bridging equipment. The first were inflatable, man-portable rafts capable of ferrying across light infantry. Elite paratrooper infantry and engineers would initially cross the canal using 60 of these and secure the far side.[28] The second piece of equipment was a unique modular ferryboat called Gilowa, capable, when three were linked together, of carrying tanks. The Gilowas, basically glorified rafts, could travel on their own wheels, but the rubber belts that made them float were vulnerable to artillery fire. In addition to the rafts, the IDF also fielded two bridges, a pontoon bridge and a steel roller bridge. The pontoon bridge, like the Gilowas, was modular and once assembled, could support tanks and span the canal. This bridge was a lot more durable than the Gilowas, but each section required a tank to tow it to the canal.[29]

The roller bridge was a unique piece of equipment designed by the IDF's senior engineer to provide a sturdy, ready to use assault bridge that could support tanks. The bridge consisted of 100 sections of floatable rollers with a bridge frame on top, which, when put together extended 200 yards. Once assembled, a task that took three days, the bridge was bulky and with its weight of 400 tons, needed 12 tanks to tow it and four to act as brakes.[30]

Such an unwieldy structure also required a gently graded road with few curves in it. In this respect, the discovery of the gap in the Egyptian lines played right into the hands of the Israelis. They had modified the natural geography of this sector in the period before the war to facilitate a potential crossing operation. In particular during the prewar period Israeli engineers had built two east-west roads leading down to the canal from the Artillery Road, to a pre-planned crossing site next to the Bar Lev Line fortification Matzmed. On the south, the paved Akavish Road led down to the coast of the Great Bitter Lake at the evacuated fortification of Lakekan and the canal east shore route, Lexicon Road. About a mile north of Akavish Road and parallel to it was the improved dirt Tirtur Road that was built specifically to allow passage of the roller bridge down to the crossing point at Matzmed. Branching off from Tirtur and running down to the canal roughly parallel and several miles north of it was another key lateral road- the Shick Road.

The Matzmed crossing site was located just north of where the canal flowed into the Great Bitter Lake, providing natural flank protection from the south. Across the canal was the old World War II era airbase complex of Deversoir. A small body of water, the Sweetwater Canal, paralleled the Suez Canal and produced a narrow belt of fertile land west of the canal. Beyond this was a chain of Egyptian SAM sites. The destruction of the SAM sites was an Israeli priority, so that their air support could then operate unhindered. To the east of the crossing

site, astride the junctions of the Akavish, Tirtur and Lexicon Roads, was a complex of easily fortifiable irrigation ditches known in IDF parlance as the Chinese Farm. Control of the Chinese Farm would be essential to any Israeli canal crossing operation as its possession by the enemy would block the key arteries into the crossing site both for the bridging equipment, and for the units moving to cross the canal.

For the crossing operation, Bar Lev intending to mass his armored forces, used one division (Sharon's) to force the crossing and secure the crossing site, then cross over two divisions (Adan's and Magen's) to exploit and expand the bridge-

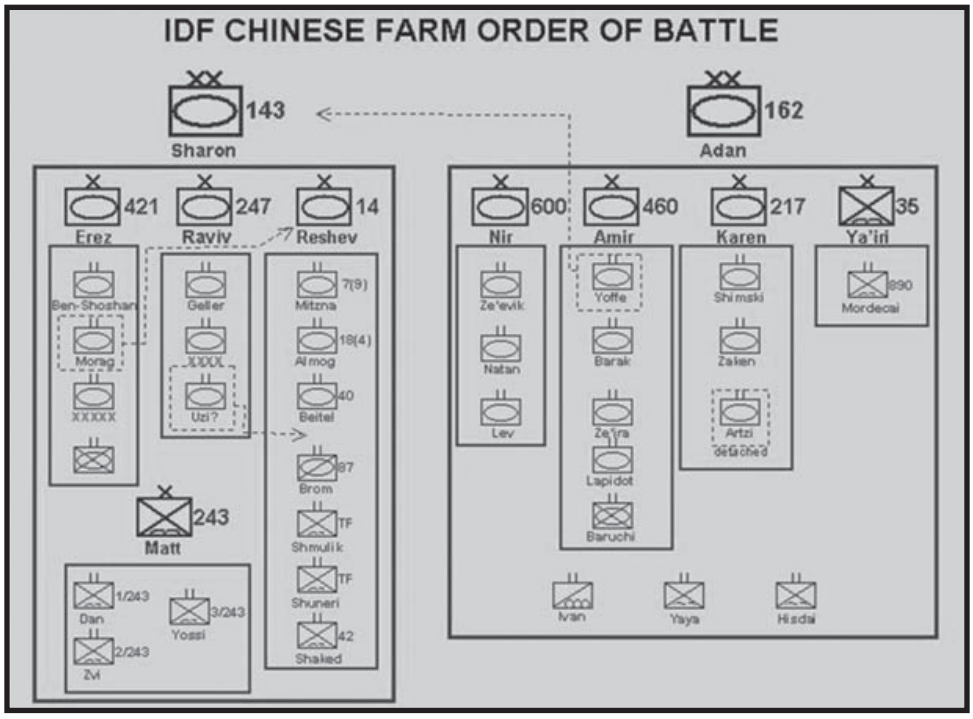


Figure 1. IDF Chinese Farm Order of Battle

head. Surprise and exploiting the gap between the two Egyptian armies were key. While one of his armored brigades attacked the Egyptian defenders frontally, Sharon would send another armored brigade, reinforced with additional tanks, recon troops, engineers, and paratroopers mounted in half tracks through the gap to secure the crossing site and push any Egyptian defenders away from it. The tanks would also push up Akavish and Tirtur from the back to clear those routes for the bridging equipment and remove the crossing site from Egyptian

artillery range. With those routes cleared, an attached reserve parachute brigade, the 243d commanded by Colonel Danny Matt, would immediately move to the

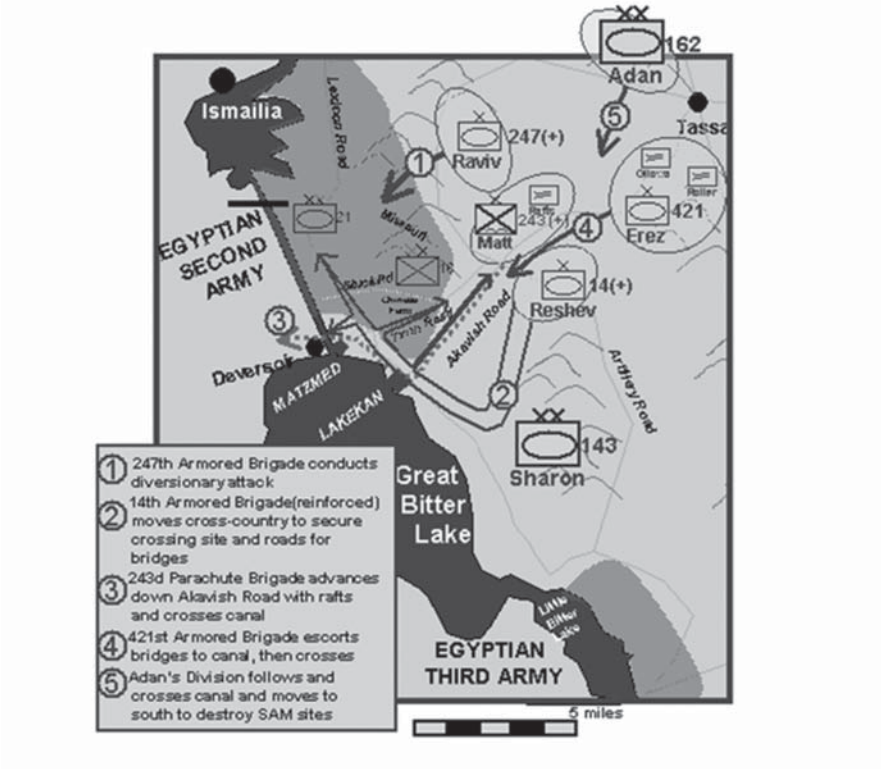


Figure 2. Israeli plan to cross the Suez Canal

crossing site and cross on the rafts. The Gilowas and part of Sharon's remaining armored brigade, the 421st commanded by Colonel Haim Erez, would move down and cross next. The rest of the 421st would follow bringing the pontoon bridge down the Akavish Road and the roller bridges down the Tirtur Road. Once these bridges were set up, the rest of the 421st would cross followed by Adan's reinforced division and then Magen's (formerly Mandler's) division.

The crossing operation began at 5 pm on 15 October with Israeli artillery firing a front-long barrage onto the Egyptian positions. The two battalions of Colonel Tuvia Raviv's 247th Armored Brigade from Sharon's division then began the diversionary attack frontally against the Egyptian 21st Armored and 16th Infantry Divisions, holding positions along the Missouri ridgeline. An hour later, Sharon's spearhead, the 14th Armored Brigade, commanded by Colonel Amnon Reshev, reinforced with recon and parachute troops, commenced its advance to the left of Raviv, cross-country south of the Akavish Road towards the Great Bitter Lake[31].

As this area was the heart of the previously discovered gap in the Egyptian positions, Reshev advanced against no opposition soon reaching the shore of the lake. By 9 pm, he had swung north and reached the canal at Matzmed. Leaving the recon and some parachute troops there, Reshev sent his tanks north and west to secure the flank of the projected crossing site and clear the Akavish and Tirtur Roads from behind for the follow-on bridging equipment.

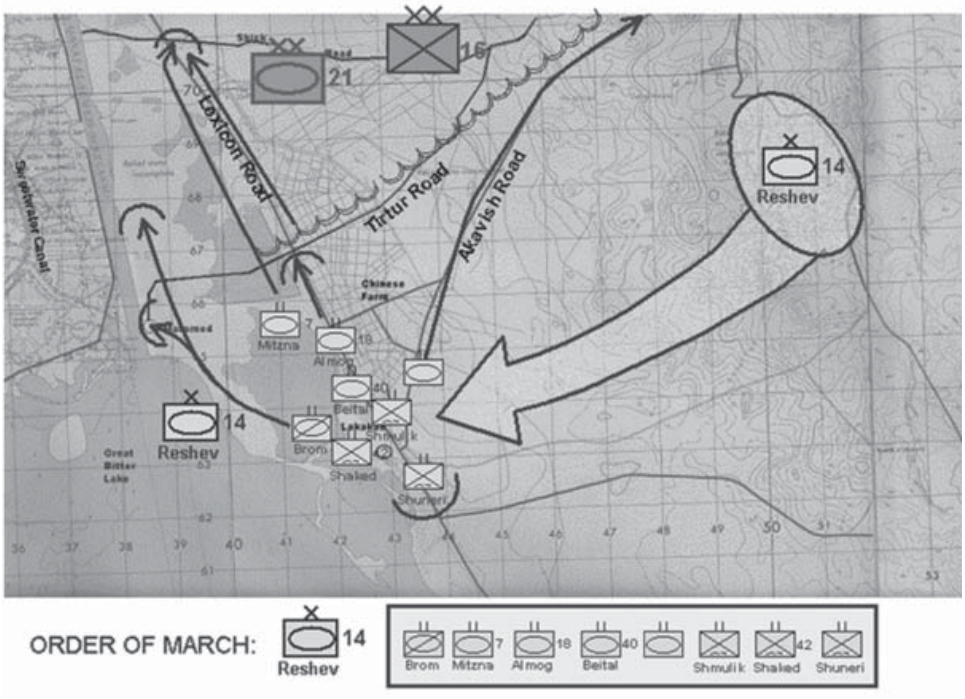


Figure 3. Chinese Farm Initial Operations, 15 October 1973

In the midst of this deployment, Egyptians suddenly opened fire from nearby dug-in positions. The 7th Tank Battalion commanded by Lieutenant Colonel Amran Mitzna, which had been sent northward from the crossing site along the left (western) side of the Lexicon Road to try to capture intact an Egyptian bridge near Ismailia, encountered heavy resistance from tanks of the Egyptian 21st Armored Division at the Shick-Lexicon road junction. After inconclusive fighting, the 16 surviving tanks formed a line along the Shick Road. To the south, however, in Mitzna's rear, another unit, the 18th Tank Battalion led by Lieutenant Colonel Avraham Almog, which had sent to secure the right (eastern) flank of the Lexicon road in support of Mitna, lost ten tanks at the Tirtur-Lexicon road junction and was forced to pull back northward along the Lexicon Road, joining up

with Mitzna's remnants. Apparently the Egyptians were so surprised to see Israeli tanks in their midst that they had let Mitzna's battalion and half of Almog's pass the Tirtur-Lexicon intersection unfired upon minutes before, but had regained their composure in time to fire upon the bulk of Almog's force. Major Shaya Beitel's 40th Tank Battalion which was following the other two battalions up Lexicon with the mission of securing the Tirtur Road for the roller bridge's passage was also stopped in its tracks near the crossroads.[32]

Meanwhile a company from a tank battalion attached to the 14th Brigade from Raviv's brigade, commanded by Lieutenant Colonel Uzi, had advanced eastward up Akavish Road without encountering Egyptian resistance, except for some fire from the north.[33] Egyptian forces were not physically occupying Akavish, but were capable of firing on it from their positions on Tirtur Road. But Akavish was open for the parachute brigade carrying the inflatable rafts.[34]

Starting at 11:30 pm, therefore, Matt's 243d Parachute Brigade began moving south with the rafts along the road in halftracks, led by an attached tank company from Erez's brigade.[35] As Matt did not have enough half-tracks for his whole brigade, only one battalion would go forward at first, followed by the second when the half-tracks could come back for them. Upon reaching the end of the road, the brigade detoured around the fighting now taking place along Lexicon Road by following the coast of the Great Bitter Lake. Despite the nearby firefight, the paratroopers reached the canal virtually unscathed. The first parachute troops, from Lieutenant Colonel Dan's battalion and a company of engineers, begin crossing the canal in the rubber rafts at 1:25 am on the 16th, about five and a half hours behind schedule.[36]

By 3 am, Dan's entire battalion and Matt's 243d Brigade headquarters, 750 troops in total, were across the canal and had established a bridgehead two miles northward from the Great Bitter Lake. Matt's second battalion, commanded by Lieutenant Colonel Dan Zvi, however, was unable to immediately come forward as the Egyptians would block the Akavish Road by the time the half-tracks were bringing the battalion forward.[37]

Upon arrival at the canal, at about 12:20 am, Matt had dispatched the parachute brigade's attached tank company up the Lexicon Road to secure the brigade's flank while it was crossing the canal. The freshly arrived unit, unfamiliar with the situation, advanced between the remnants of two of Reshev's tank battalions and Egyptian infantry and tanks dug-in near the Tirtur-Lexicon crossroads promptly destroyed every tank in the company.[38]

The Israeli attackers had run into the right flank defenders of the Egyptian 16th Infantry Division, its 16th Infantry Brigade, apparently anchored on the Tirtur Road and running eastward almost to its intersection with the Artillery Road.

Several miles north of Tirtur, along the Shick Road were the rear installations of the 16th Division as well as several units of the Egyptian 21st Armored Division, which were in reserve, some after being bloodied in the Egyptian offensive onto the 14th. Reshev's brigade had ridden into this hornet's nest.[39]

Mitzna, though isolated, found himself in the logistics hub of two Egyptian divisions and took advantage of the situation until the Egyptians recovered from their surprise. Soon Mitzna's tank crewmen were fighting for their lives. To the south, but still north of the intersection, Almog found himself, with the remnants of his battalion, in a similar situation. Brigade commander Reshev, with his forward command post consisting of his command tank and two half tracks, was in the midst of the action at the crossroads from the start. On Reshev's shoulders, however, rode the success of the entire operation. He could not give up while the enemy controlled key terrain.[40]

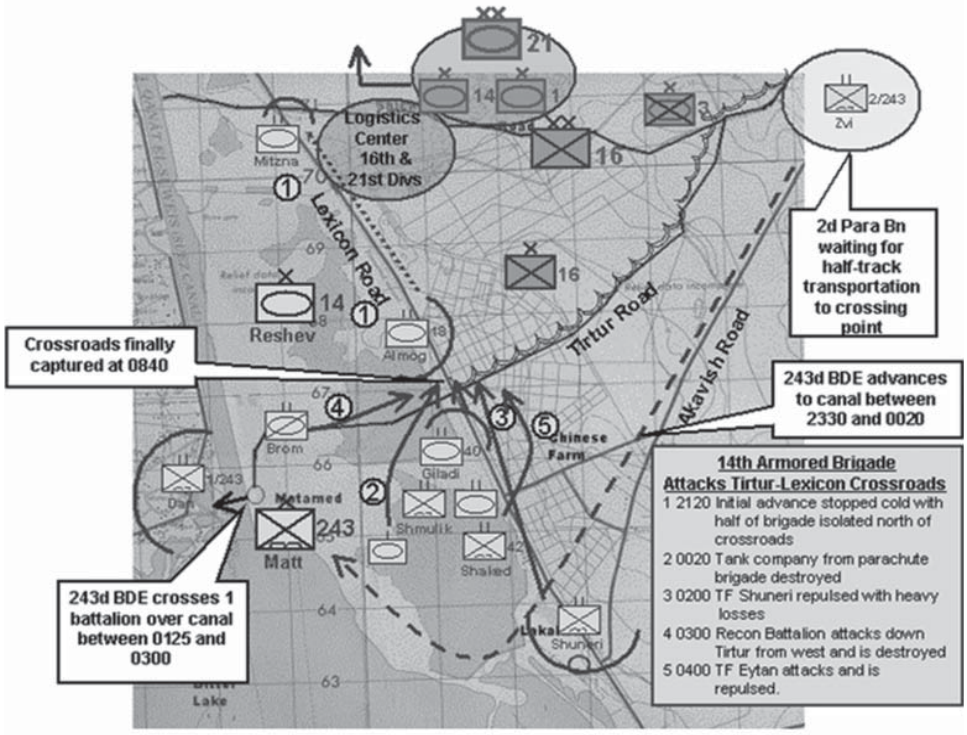


Figure 4. Israeli Assaults on the Tirtur-Lexicon Crossroads, Night of 15/16 October 1973

Therefore at 2 am the 14th Armored Brigade mounted another attack against the Egyptians holding the Tirtur-Lexicon crossroads. Reshev called on his reserve force, a battalion task force of two parachute infantry companies of recalled veterans mounted in half-tracks under the command of Major Natan Shuneri. To this

force he also attached the company-sized remnants of Beitel's 40th Tank Battalion, now under the command of Captain Gideon Giladi. As Reshev watched from nearby, the badly coordinated attack was repulsed with most of the tanks being knocked out and Giladi killed, though the Egyptians took heavy tank losses as well.[41]

An hour later, at 3 am, the brigade tried again, this time attacking with two companies of the recon battalion, which had initially secured the crossing site. Attacking from west to east along Tirtur, the attackers were again repulsed with heavy losses, with the battalion commander, Major Yoav Brom, being killed when a volley of RPGs blew up his tank within 30 yards of the crossroads.[42]

In another hour, Reshev, believing that the Egyptians were withdrawing, tried again with his half-track infantry and the remnants of the 40th Battalion, now under the command of the deputy brigade commander, Lieutenant Colonel Ze'ev Eytan. An antiarmor ambush destroyed all but two of the vehicles as the crossroads remained firmly in Egyptian hands. After another failed attempt, the brigade had through the night suffered about 120 soldiers killed in action out of a total of over 190 casualties, most of them tank crewmen, and lost over 60 tanks.[43]

Behind the Israeli lines, poor planning and geography had resulted in a massive traffic jam surrounded the heavy bridging equipment.[44] A conference at Israeli Southern Command headquarters decided to move the Gilowa wheeled ferry vehicles out of the jam to get them to the crossing site before dawn so that tanks could cross the canal as soon as possible. After moving cross-country, the Gilowa ferries reached the crossing site by 4 am, escorted by the battalion from Colonel Natke Nir's 600th Armored Brigade of Adan's division commanded by Giora Lev. Soon the boats were operational. At 6:30 am the Gilowas ferried the first ten tanks (from Lev's battalion) across the canal to join the paratroopers.[45]

Sharon had moved out with his forward command post (five APCs) with the Gilowas down to the crossing site from his previous location near the upper portion of the Akavish Road. Sharon crossed over to the bridgehead and then returned to the Matzmed crossing site from where he directed operations of his division, concentrating on the crossing aspects of his mission at the expense of the road clearing aspects.[46]

Meanwhile on the Akavish Road, in the traffic jam, the roller bridge broke a connection, jeopardizing the crossing operation. The tank battalion from Sharon's reserve, the 421st Armored Brigade (-), commanded by Colonel Haim Erez, which was towing the bridge, was released from the mission and sent to join Reshev at the canal. En route the battalion, led by Lieutenant Colonel Yitzhak Ben-Shoshan, escorted Zvi's battalion of Matt's parachute brigade, which was mounted on half-tracks. Sagger fire from positions astride the nearby Tirtur

road forced the vulnerable half-tracks back. But the tanks continued, bypassing the roadblock by moving cross-country south of the road, reaching the crossing site at mid-morning. Erez, with his forward brigade command post and Ben-Shoshan's 21 tanks and seven APCs, was promptly ferried across the canal, joining Lev's 14 tanks and a company of APC-mounted infantry. The additional tanks were immediately dispatched to attack SAM sites throughout the rest of the morning of the 16th.[47]

With the Tirtur Road, essential to moving the heavy bridge to the crossing site, still blocked, Sharon committed his reserve, Erez's remaining battalion, commanded by Lieutenant Colonel Ami Morag, placed under control of Reshev's brigade, to clear that road from the east. Part of Uzi's battalion, which had earlier cleared Akavish for Matt's brigade, supported the attack by fire. Though Morag managed to penetrate almost all the way to the Lexicon intersection, infantry dug-in near the Chinese Farm repulsed his attack with antitank missiles fired in salvoes. Through clever maneuvering of his tanks and constant suppressive fires, Morag managed to not suffer any fatal casualties. Before he retreated, he managed to also rescue survivors from Shuneri's abortive attack.[48]

To the west Reshev assembled a scratch force, to once again attempt to clear the Lexicon-Tirtur crossroads, this time in daylight. After making initial headway, the attack was once more repulsed. The troops had become exhausted. Nevertheless, Reshev sent them in for another try. This time 22 tanks attacked from the north and east. They were forced back by Egyptian armor after losing three tanks. Several minutes later, Reshev scraped together 13 tanks from the 40th Battalion led by Captain Gabriel Vardi, infantry and recon troops for one more try. The Egyptian fire began to slacken as they too had also taken heavy losses. Under the pressure of Israeli tank fire, the Egyptians fell back, some offering up white flags. By 9 am the critical Tirtur-Lexicon junction was finally in Israeli hands.[49]

On the morning of the 16th, Adan sent a tank battalion from Colonel Gavriel "Gabi" Amir's 460th Brigade to relieve Reshev, who was down to a strength of 27 tanks. The battalion, led by Lieutenant Colonel Amir Yoffe, had originally been earmarked to cross the canal, but Reshev's desperate situation forced it into action on the east bank instead. Yoffe took over the Shick line while Reshev moved his depleted battalions back to the vicinity of Lakekan to reorganize. Yoffe fought off Egyptian counterattacks from the 1st and 14th Armored Brigades and the 18th Mechanized Brigade of the Egyptian 21st Armored Division all day.[50]

While the Tirtur-Lexicon crossroads was now in Israeli hands, both the Tirtur and Akavish Roads remained blocked. After Ben-Shoshan's battalion joined Lev's on the far bank, Bar Lev refused to allow any more troops to cross the

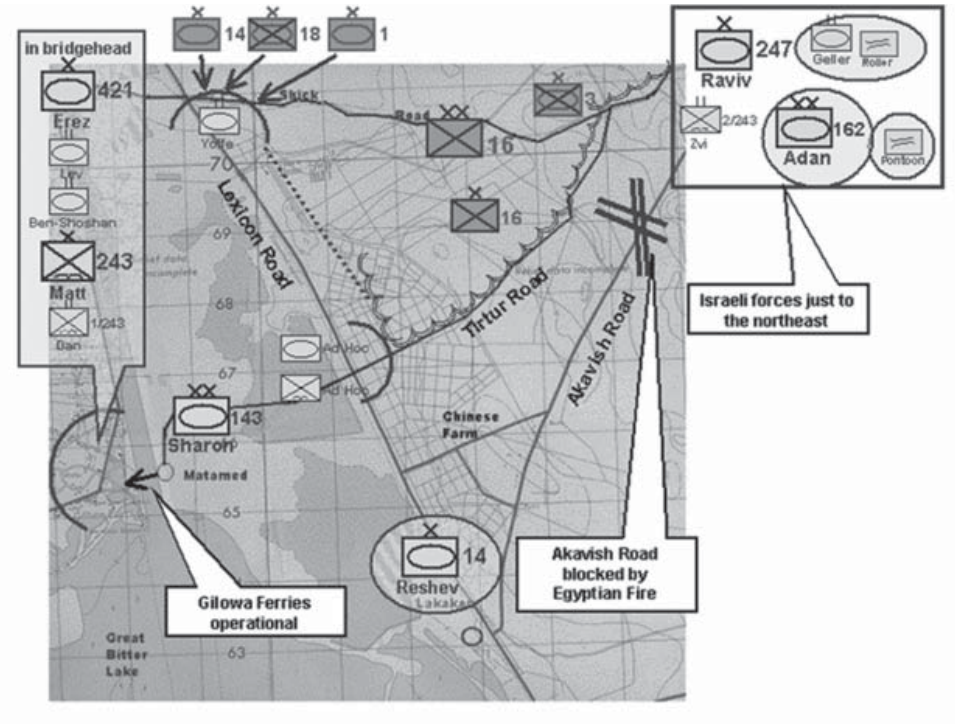


Figure 5. General Situation, Midday 16 October 1973

canal on the Gilowas or rafts until the roads were cleared and more permanent bridges could be brought down. Despite the fact that his division was barely holding open the line of communications to the far bank, and now would have to rely on Adan to finish the job, the decision outraged Sharon.[51]

At noon Southern Command ordered Sharon to take the Chinese Farm from the west, while Adan's division would now enter the fight clearing the Akavish and Tirtur Roads and bring up the pontoon bridges.[52] But Adan's attack, executed by two battalions from Nir's bigade, was quickly brought to a halt. Nir then assumed defensive positions when dust clouds in the distance indicated the approach of a large Egyptian armored force. But the force turned back before Nir could engage it. Several other armored forces approached through the afternoon but were engaged only by artillery. Adan guessed that the Egyptians were trying to bait him into sending his tanks forward so the Egyptian infantry could destroy them with Saggers. He did not take the bait and instead spent the rest of daylight waiting for infantry support promised him in the guise of a parachute battalion. The battalion arrived via planes and bus.[53]

At 2 am on the 17th, Lieutenant Colonel Yitzhak Mordecai's 890th Parachute Battalion, supported by the headquarters and support elements of its parent 35th Parachute Brigade, attacked the Chinese Farm from the east, along the six-mile trace of the Tirtur Road. Mordecai's parent brigade, the 35th Parachute under Colonel Uzi Ya'iri, controlled the operation. Ya'iri deployed three infantry companies forward under Mordecai and followed with an infantry company and the battalion's heavy weapons company under his personal command. One company would advance north of Tirtur, one between Tirtur and Akavish and one south of Akavish. Once enemy locations would be found, the battalion would consolidate. A battalion of tanks from Amir's 460th Brigade (Adan's division), commanded by Lieutenant Colonel Ehud Barak, would support, though it would not join the advance. The paratroopers were soon pinned down and artillery fire, because of fratricidal concerns, was ineffective. The operation soon became a rescue mission for the wounded. At first light, Barak's tanks were sent in to help the paratroopers resume their attack. The now familiar Saggers, however, quickly knocked out five tanks, ending the effort.[54]

During the night the fighting at the Chinese Farm distracted Egyptian attention from the Akavish area. Adan sent the recon company from Amir's brigade down Akavish in its APCs. These scouts discovered the road was clear and the division commander promptly sent out the pontoons with escorts under his deputy. The pontoon bridges were able to reach the crossing site. By 8 am they were being put together, though the bridge would not be operational until 4 pm.[55]

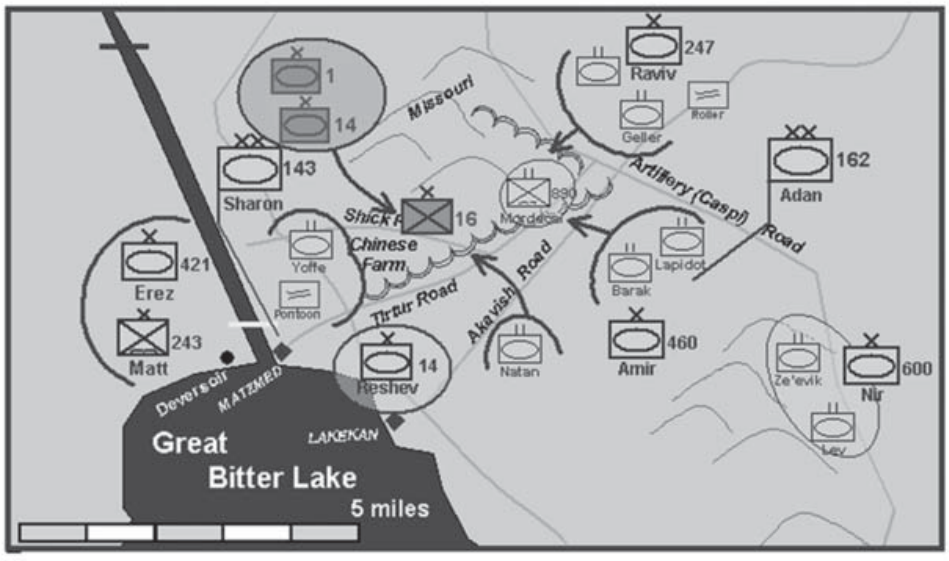


Figure 6. 17 October 1973, Coordinated Attack on the Chinese Farm

At dawn on the 17th Adan prepared to throw every available tank at the Chinese Farm. Finally the IDF had massed enough battalions to make an irresistible, coordinated attack. Lieutenant Colonel Natan's battalion from Nir's 600th Brigade had followed the pontoons and was now in position to advance on the Egyptian Tirtur positions from the southwest. Amir's 460th Brigade would attack from the east with Barak's battalion reinforced with another battalion (commanded by Lieutenant Colonel Lapidot). Nir's brigade (minus Natan's battalion) was held in reserve to the southeast. Colonel Arieh Karen's 217th Brigade had been detached to Southern Command reserve but Raviv's 247th Brigade was now attached from Sharon's command. Raviv, with two battalions, would move in from the northwest.[56]

The attack turned into a meeting engagement as the Egyptian 1st and 14th Armored Brigades were simultaneously advancing south to attempt to reblock the Akavish Road. West of this attack zone on the Shick Road holding Sharon's northern flank, Yoffe's battalion had successfully repulsed numerous Egyptian armored and infantry attacks with no losses to his own force. Additionally, Reshev had reorganized his brigade's remnants and was preparing to reinforce Yoffe. Yoffe had observed Egyptian infantry withdrawing from the Chinese Farm area to his east. But while the infantry retreated, armored forces were advancing to face off with Adan's arrayed tank battalions, resulting in a massive tank battle. After a fierce five-hour seesaw battle, Adan secured a line along the Tirtur Road, capturing the southern third of the Chinese Farm and permanently secured the Akavish Road. The tide had turned clearly to the Israelis as, while the IDF had lost between 80 and 100 tanks in the battles, tank losses now favored them with the Egyptians losing at least 160, over two-thirds of their available tanks near the crossing site.[57]

In the morning of the 17th, even while the tank battle around the Chinese Farm raged, a conference was held at Adan's forward command post, including Adan, Sharon, Gonen, Bar Lev and IDF Chief of Staff Elazar. On the spot decisions were made concerning future operations. While the crossing site was being shelled by Egyptian artillery, and Egyptians had defended tenuously at the Chinese Farm, it was obvious that that defense was weakening and, with the arrival of the pontoon bridge, the tide had turned and offensive operations could continue with Sharon holding the bridgehead open while Adan would then cross and exploit on the west bank.[58] First, however, Adan would have to take care of a new threat.

In the afternoon, even as the battle of the Chinese Farm still went on, Adan was forced to redeploy his forces to stop the advance of the Egyptian 25th Armored Brigade. This brigade was moving in column from the south up the Lexicon

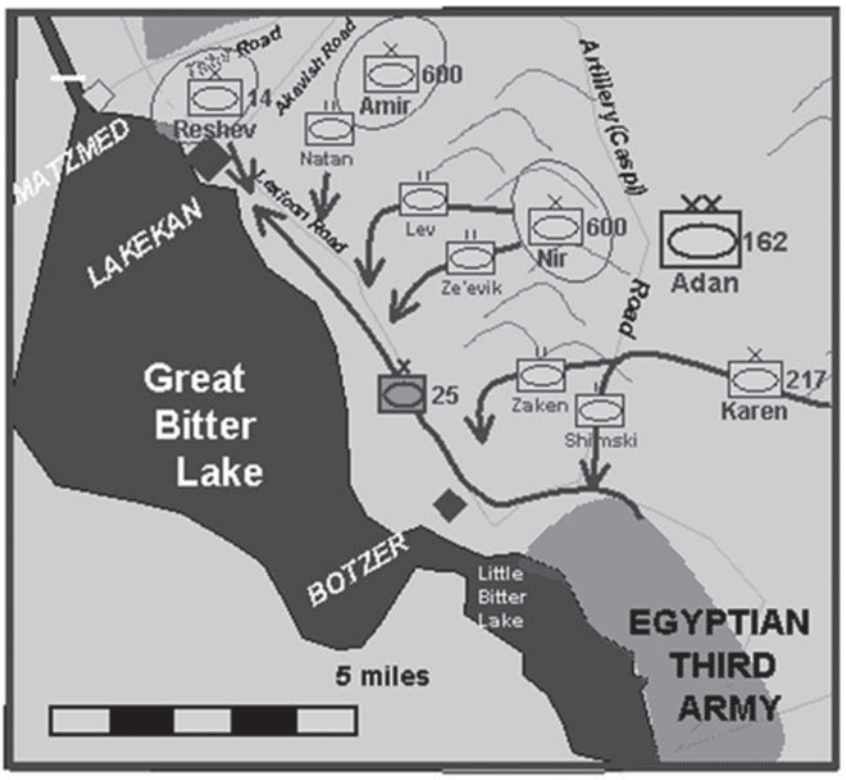


Figure 7. 17 October 1973, Adan Destroys the Egyptian 25th Armored Brigade.

Road along the shore of the Great Bitter Lake out of the bridgehead of the Egyptian Third Army. This movement was supposed to be in coordination with the attacks of the two armored brigades from the north and could, if not stopped, take the units fighting at the Chinese Farm in the rear. Instead, Adan moved his forces to create a large anti-armor ambush. Southern Command released back to Adan Karen's two-battalion brigade, which he immediately moved down the Lateral Road south of Tasa. Then Karen swung to the west to attack the rear of the Egyptian column. Nir, already located along the Artillery (Caspi) Road with two battalions, moved west to attack the center of the column. Amir with Natan's battalion and Reshev from Sharon's division would block the front of the column and attack it from the north. With the ambush set, Adan let the Egyptians fall into it, holding artillery and tank fire until the entire 10-mile long column was within range of Israeli weapons. When the Egyptian vanguard fired on Reshev near Lakekan, Adan sprung his trap. While Karen sealed the southern escape route, Nir attacked the flank of the column. The ambush was a complete success. By late afternoon the Israelis had completed the annihilation of the Egyptian force, destroying between 60 and 86 vehicles while losing only four tanks, two to

mines. Only a handful of Egyptian vehicles, including that of the brigade commander, survived by fleeing into the abandoned Bar Lev fort of Botzer.[59]

At 9 pm, with the pontoon bridge in place, Adan's Division started crossing the canal. Sharon took over the portion of the Tirtur front held by Adan's units and the next morning (18 October), pushed the Egyptians completely out of the Chinese Farm.[60] This allowed the deployment of the roller bridge. It was operational the next day.

Figure 8. Post-Crossing Operations

Once across, Adan, followed by Magen's division, advanced south along the west side of the Great Bitter Lake to isolate the Egyptian Third Army around Suez city between the 19th and 23d. Through hard fighting, Adan and Magen managed to cut off the Egyptians, though Suez city itself was not captured. Several ceasefires and an eventual peace treaty followed.

Conclusions

Despite the ultimate success of the operation, the Chinese Farm battle was an arduous one for the IDF in which casualties were relatively heavy intelligence was weak, and maneuver organization was inadequate until fixed on the fly.

An example of the course of the battle can be seen in the fate of the 87th Armored Reconnaissance Battalion. This reserve unit raised only five months earlier saw its first and only combat action in the 1973 campaign. The battalion was organized with three companies with a mix of M60A1 tanks and M113 armored personnel carriers and a company of jeeps.

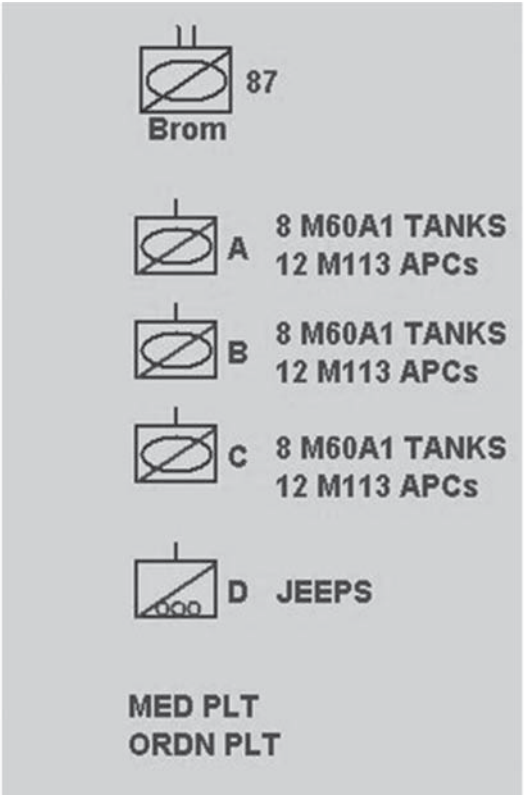


Figure 9. Organization of the 87th Armored Recon Battalion

By design the 87th was the recon unit of Sharon's 143d Armored Division. But for most of the campaign, Sharon subordinated the battalion to his 14th Armored Brigade. While under the14th, the battalion discovered the gap in the Egyptian lines south of the Chinese Farm on 9 October. Although the battalion was only in limited action before the Chinese Farm operation, it had lost its battalion com-

mander killed by Egyptian artillery, and two company commanders wounded and replaced as well. In the Chinese Farm operation, the battalion led the advance to the canal of the 14th Brigade and then secured the crossing site and its immediate environs. Tasked to help salvage the deteriorating situation at the Tirtur-Lexicon crossroads, the battalion suffered heavy losses including the death of its new battalion commander Yoav Brom. At the Chinese Farm the battalion would suffer the loss of 32 soldiers killed in action, numerous more wounded including two company commanders and the loss of most of its tanks and armored personnel carriers. The battalion remnants were formed into an ad hoc tank company under the remaining company commander and reassigned to one of the 14th Brigade's tank battalions.[61]

The operations of the Israeli Defense Forces in the Battle of the Chinese Farm are a classic example of the employment of a plug and play modular army whose maneuver structure was based on the brigade. At all levels, the Israelis were able to mix and match units of similar types into different organizations based on the tactical situation with virtually no loss of effectiveness. The IDF even employed one tank battalion composed of reservists who had been living in the United States when the war started. This battalion, commanded by reservist Lieutenant Colonel Ehud Barak, who, like Sharon, later became Israeli prime minister, served in Adan's 460th Brigade and supported the attack of the paratroopers down the Tirtur Road on 17 October and later crossed the canal and fought on the west bank.[62]

In many ways the IDF had institutionalized improvisation. Commanders at all levels showed great flexibility and initiative. The shift of Adan's division from the Chinese Farm area to the east side of the Great Bitter Lake to destroy the Egyptian 25th Armored Brigade showed this great flexibility in action.

Into this modular mix, the Israelis executed their operations with an intense sense of urgency. Despite grave setbacks at the Chinese Farm and Tirtur-Lexicon crossroads, which threatened the success of the entire operation, failure was not an option. Believing firmly that their national existence depended on the competency of the military, the IDF officers and soldiers refused to give up and through a combination of persistence and reorganization, ultimately succeeded.

The Battle of the Chinese Farm showed Israeli mobile operations and battle command at its best and at its worst. While the Israelis had no complete picture of the enemy situation, their intelligence was far superior than it had been in the earlier Sinai battles. Planning and coordination, while clearly superior to that of the El Firdan attack, still showed flaws. The IDF often replaced good staff work with good, though possibly unnecessary improvisation. The traffic jams, span of control problems, and task organization difficulties could all have been resolved

up front with good planning and staff work. It took two days of failed, piecemeal, uncoordinated attacks on the Chinese Farm position before a massed, coordinated attack was finally employed. While modern armored battle requires an inherent flexibility and capability to improvise, good planning and staff work can greatly minimize the requirement for such for improvisation.

Nevertheless overall control of the maneuver forces in the Chinese Farm operation was greatly improved from the early days of the war. The theater level command team of Bar Lev and Gonen made frequent visits to their subordinates and, despite Sharon's claims to the contrary, actually had pretty good situational awareness. At all times commanders knew their highers' intentions and plans were changed based on the enemy situation, not on whimsy or unbridled optimism or pessimism. For matters important enough, Bar Lev was even capable of talking directly to battalion commanders, as he did with one of the first units across the canal, to which he personally gave the mission of destroying Egyptian surface-to-air missile sites under instructions from the Air Force.[63]

The Israeli divisional and brigade commanders led from the saddle, using forward command posts and usually collocating with either their lead subordinate unit or their reserve element. Radio communications allowed a span of control over units that were separated by enemy forces or great distances. While this allowed great situational awareness and responsiveness, this up-front style of leadership was a double-edged sword. Commanders so far forward often ended up in close combat that hindered their ability to control their unit. This happened to Reshev on the evening of 15 October, and to Sharon while at the crossing site when he personally tried to shoot down an Egyptian aircraft.[64]

Additionally, while the IDF was very flexible in organizing its forces, some of that flexibility was missing from the organization in this operation. Span of control and ease of control was often lacking. While the Israelis committed two division headquarters and eight brigade headquarters, one brigade, Reshev's 14th, was strapped with seven battalion-equivalent units reporting to it. Added to Reshev's difficulties was that he soon became embroiled in combat at the Tirtur-Lexicon crossroads. Adan's divisional headquarters, led by the most experienced armored commander in the operation, was left uncommitted for almost the first 24 hours of the operation. Meanwhile Sharon was attempting to control the crossing operation, Reshev's battle, and, on the other side of the enemy's blocking position, a brigade towing the bridging equipment, and another executing a diversionary attack. Despite this large span of control, Sharon essentially spent most of his time personally overseeing the crossing operation.[65]

At the other extreme when only two battalion-equivalents were across the canal, there were also two brigade headquarters controlling them (Matt's and

Erez's), and Colonel Uzi Ya'iri's regular 35th Parachute Brigade controlled only Mordecai's battalion in its night attack on 17 October.

In terms of unit employment, while tactical intelligence proved to be an obvious problem during the operation, the one available reconnaissance unit was attached directly to an armored brigade and then used like a tank battalion in an assault on the Tirtur-Lexicon crossroads, which resulted in the battalion's destruction. The temptation to use a recon battalion equipped with tanks as a main battle unit, even when intelligence is sorely needed, is very great, particularly when the battalion has been attached or assigned directly to a brigade which only has a limited amount of tank assets available to it to begin with.

When the war started, the Israeli armored forces had assigned units of mechanized infantry. But in the course of the war, the quality of these forces was considered so low that small units of paratroopers were brought forward and reequipped with armored personnel carriers. This improvisation, while providing elite infantry, also ensured that this infantry would be unfamiliar with the role of mechanized infantry. And in at least one case, a shortage of armored personnel carriers resulted in paratroopers having to be shuttled forward.

While there was no effort to balance spans of control between different brigades based on their missions and the situation, there was also no appreciation for the personalities of the subordinate commanders. Bar Lev and Gonen had to realize Sharon was a difficult subordinate who would, if not kept under firm control, attempt to twist their intent into whatever it was he wanted to do. Knowing he favored a crossing, they gave him a key role in it. However, Sharon paid inadequate attention to the clearing of the route to the crossing site, leaving that to an overextended subordinate, while he himself concentrated on the crossing itself. Additionally, Bar Lev and Gonen allowed Sharon's role to allow him to be geographically separated from direct contact with higher headquarters with predictable results: vague reports and frequent unavailability. With such a complicated operation, placing such a difficult subordinate, who believed in improvisation over planning, out where he could act independently, created unnecessary stress and command and control difficulties.[66]

After initial setbacks, the Israelis proved to be masters of modern mobile warfare. However, they also proved how difficult such operations could be, even when there is clear radio communication and leaders at all levels display high initiative. Improvisation is not necessarily a good substitute for planning and routine staff work.

The Israeli command coordinated its operations far more successfully in the Battle of the Chinese Farm than it had in its previous Sinai operations, even though this action was complicated by the need to move specialized bridging

equipment down certain roads, astride which the Egyptians had placed dug-in infantry. While this operation had some command and control problems, primarily concerned with massing adequate forces to eject the Egyptians from the Chinese Farm area itself, overall the Israelis achieved their objective of opening a crossing site at the canal. While Egyptian resistance proved tougher than expected and their deployments a surprise, this time the Israelis were ready for the unexpected. The leading force from Sharon's division suffered from a span of control problem, with one brigade commander given control of too many subordinate elements, each with disparate missions. The situation was compounded when that commander was soon cut off behind Egyptian lines in running battles with Egyptian armored forces. However, the extensive preparations paid off as each separate Israeli unit commander knew the intent of the operation and were able to continue with the mission even when not under any superior's direct command and control. Sharon had his division actually deployed on two fronts with a large Egyptian force between them and a forward element across the Suez Canal. Bar Lev alleviated this difficulty by giving Adan control over Sharon's forces facing the Egyptians from the east. The IDF command was under such good control in the later phases of this operation that Adan was able to easily respond to an enemy threat from a new direction and set up a trap and then destroy an Egyptian armored brigade.

The Israelis managed to learn from their mistakes and adjust to the new situation, realign their forces into a better combined arms team and execute an operation that both destroyed the SAM umbrella and made the position of the Egyptian forces dug in along the east bank of the Suez Canal perilous before a ceasefire ended the conflict.

Notes

1. Abraham Rabinovich, *The Yom Kippur War: The Epic Encounter that Transformed the Middle East* (New York: Schocken Books, 2004), 468.

2. Rabinovich, 242-3.

3. For a detailed analysis of Sharon's performance see Trevor Dupuy, Elusive Victory: The Arab-Israeli Wars 1948-1974 (Fairfax, VA: HERO Books, 1984), 585-6.

4. Avraham Adan, *On the Banks of the Suez: An Israeli General's Personal Account of the Yom Kippur War* (London: Arms and Armour Press, 1980), 6.

5. Adan, 40,

6. Rabinovich, 249-50; Adan, 144-6, 152. Adan had to detach his recon battalion to a separate command on the northern end of the Sinai front.

7. Adan, 207-8. While chief of the IDF armored Corps, Adan tried to raise the training, equipment and recruiting standards of the IDF mechanized infantry, with mixed results.

8. Adan 17, 25.

9. Adan, 18.

10. Adan, 10, 17.

11. Chaim Herzog, *The War of Atonement: October, 1973* (Boston: Little, Brown and Company, 1975), 158.

12. Adan, 25, Herzog, 159, 161, 165.

13. Adan, 141.

14. Rabinovich, 327-8, 330; Adan, 215, 227.

15. Adan, 219.

16. Rabinovich, 271-4.

17. Ibid., 331.

18. Adan, 196, 221, 227, 229.

19. Ibid., 207-210/

20. Herzog, 204-5.

21. Saad el Shazly, *The Crossing of the Suez* (San Francisco: American Mideast Research, 1980), 245-8; Rabinovich, 346-8.

22. Adan, 231, 236.

23. Rabinovich, 353, 355; Adan, 239.

24. Adan, 239.

25. Ibid., 218.

26. Brom had been vacationing abroad when the war started and had assumed command of the battalion after its previous commander had been killed by artillery fire. Brom had been serving on the staff of the 14th Armored Brigade, under which Sharon had subordinated the battalion.

27. Rabinovich., 282-3.

28. Herzog, 217.

29. Ariel Sharon, with David Chanoff, *Warrior: The Autobiography of Ariel Sharon* (New York: Simon and Schuster, 1989), 312-3; Simon Dunstan, *The Yom Kippur War 1973* (2); *The Sinai*, Campaign series (Oxford: Osprey, 2003), 70-2; Rabinovich, 359-60.

30. Ibid.

31. Sources conflict on the composition of the infantry and recon components of Reshev's task force. However it seems to have consisted on three small infantry battalion task forces, consisting of parachute troops in half-tracks and some tanks. However, one source claims (see Dupuy, 496) that one of the battalions was the mechanized infantry battalion from the 421st Armored Brigade and another was a separate mechanized infantry battalion. The recon battalion was Sharon's divisional unit (the 87th) reinforced with additional tanks. For the best discussion of Reshev's order of battle, see Frank Chadwick and Joseph Bermudez, "Historical Notes and Scenarios Booklet," *Suez '73: The Battle of the Chinese Farm: October 15-22, 1973* (Normal, IL: Game Designer's Workshop, 1981), 5.

32. Rabinovich, 368-9; Herzog, 211-2,214; Adan, 263-4, 266.

33. The rest of this battalion was divided up as follows: one company sent to unsuccessfully clear the Tirtur Road, and the last company to join the brigade reserve force near Lakekan, Task Force Shuneri. See Chadwick and Bermudez, 5. Uzi's complete name is not given in available sources (Herzog, 222.)

34. The tank company followed the paratroopers back down Akavish and joined the rest of its battalion south of the Tirtur-Lexicon crossroads. Adan, 267.

35. The tank company came from Ami Morag's battalion. See note 78 below.

36. Rabinovich, 362, 364; Adan, 267. Available sources do not indicate Dan's complete name.

37. Rabinovich, 374: Adan, 264. See note 87. Zvi's battalion would not get across until the 17th. Sometimes Zvi's name is given as Ziv.

38. Dupuy, *Elusive Victory*, 499; Rabinovich, 374, 385-6; the tank company came from Lieutenant Colonel Ami Morag's tank battalion in Erez's brigade. While most sources claim all tanks in the company were destroyed at the crossroads, Rabinovich claims only four of the company's seven tanks were destroyed.

39. Chadwick and Bermudez, 5; Herzog, 212;Sharon, 315.

40. Rabinovich, 369-70.

41. Ibid., 376-7; Adan, 267-8.

42. Rabinovich, 375; Herzog, 216.

43. Herzog, 216-7; Adan, 269; Rabinovich, 381. The infantry probably came from either Task Force (TF) Schmulik or TF Shaked (possibly really designated as the 42d Parachute Infantry Battalion), both of which were with the brigade but whose actions are not mentioned in most sources. The tanks probably came also from Uzi's tank battalion borrowed from Raviv's brigade.

44. Herzog, 218; Sharon, 313.

45. Rabinovich, 379-80, 388; There's some confusion about Lev's battalion as sources seem to indicate it was in two places at once: 14 tanks across the canal and a battalion under Nir with Adan's division to the east. Probably the battalion had been split into two task forces, a common IDF practice.

46. Rabinovich, 379; Sharon, 316; Adan, 268.

47. Rabinovich, 378, 385, 388-9; Adan, 276.

48. Rabinovich, 382, 385-8; Herzog 222; Adan, 269. Morag's battalion had been providing security for the roller bridge.

49. Rabinovich, 382-3; Herzog, 221-2.

50. Adan, 277-8, 293.

51. Rabinovich, 391-3; Sharon, 317-320.

52. Rabinovich, 373, 393; Adan, 278.

53. Adan, 279-81, 284-5.

54. Ibid., 286-8, 291; Rabinovich, 396-8

55. Adan, 290-1; Rabinovich, 399, 412.

56. Adan, 292-3; Natan's and Lapidot's complete names are not given in available sources.

57. Gawrych 63; Adan, 293; Rabinovich, 403-4; Chadwick and Bermudez, 6-7.

58. Adan, 298-9; Rabinovich, 409-10.

59. Adan, 301-3; Herzog, 228; Rabinovich, 411-2.

60. Rabinovich, 426.

61. *The 87th Armored Recon Battalion*. http://www.87th.org.il/enhistory.html. Accessed 3 Aug 2005.

62. Barak's battalion was composed of 10 Centurions, 10 M60A1 Pattons and 10 armored personnel carriers. The unit joined Adan's command on 13 October. See Adan, 286-8, Rabinovich, 396-8..

63. Sharon, 319; Adan 277, Herzog, 223; Rabinovich, 389.

64. Sharon, 321, 323-4.

65. Adan, 268; Gawrych, 60.

66. Adan, 277; Rabinovich, 406-8; Sharon, 321.

McGrath Slide Addendum:
Sinai 1973: Israeli Maneuver Organization and the Battle of the Chinese Farm

Figure 1

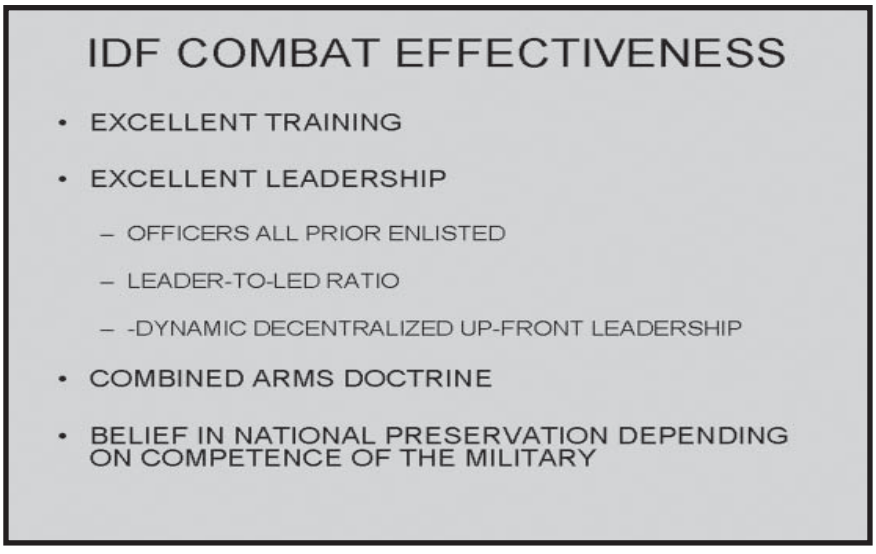
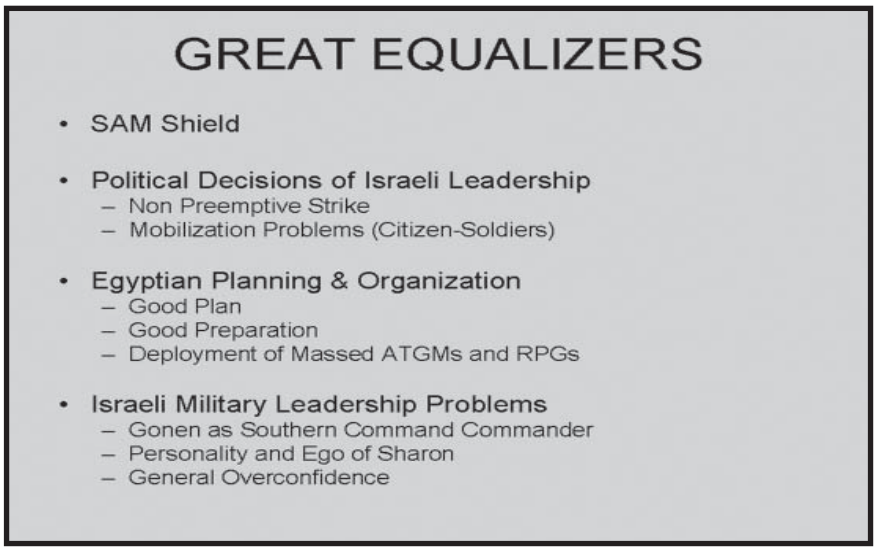


Figure 2



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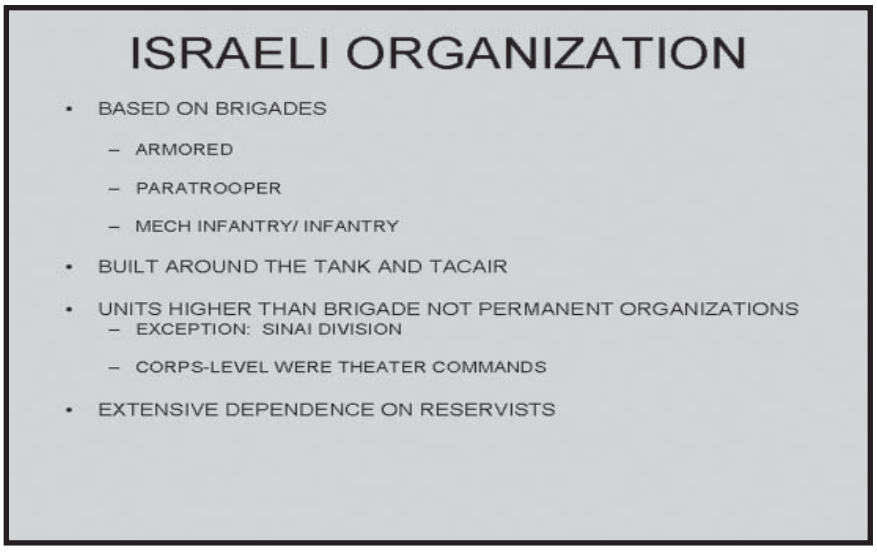


Figure 4

ISRAELI CONSCRIPTION PRIORITIES

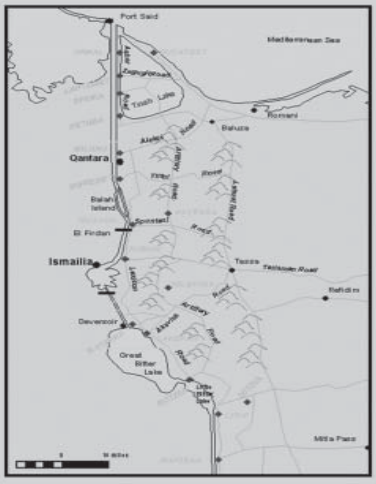
1. AIR FORCE
2. PARATROOPERS (ELITE INFANTRY)
3. TANK CORPS
4. ARMORED INFANTRY (PART OF TANK CORPS)
5. ARTILLERY
6. EVERYTHING ELSE

CONSCRIPTION 2-3 YEARS

RESERVE SERVICE UNTIL UNFIT (20+ YEARS)

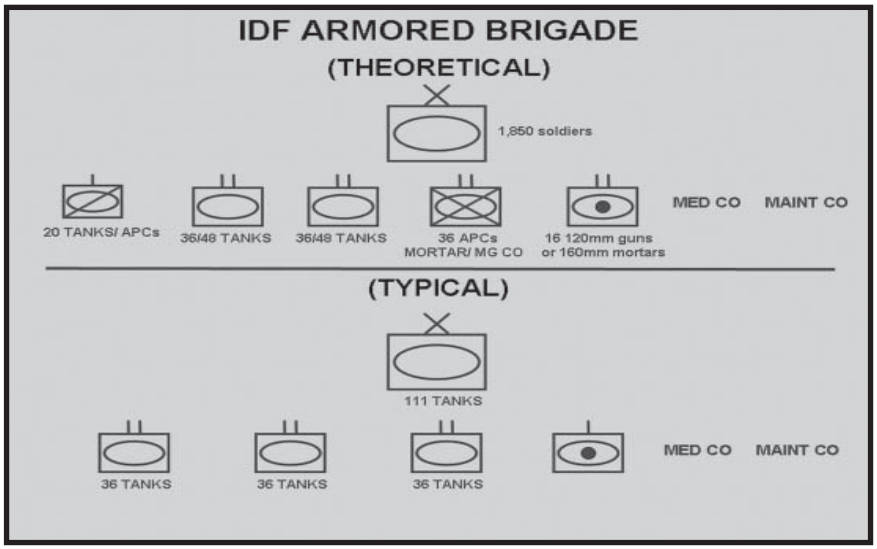
Figure 5

SINAI CANAL FRONT TOPOGRAPHY 1973



- CANAL APPROACHES DOMINATED BY TWO PARALLEL RIDGELINES
- MAJOR N-S ROADS AT CANAL AND ON RIDGELINES (BUILT BY ISRAELIS)
- MAJOR E-W ROADS AT LESS FREQUENT INTERVALS
- EGYPTIANS GENERALLY DUG IN BEFORE AND ALONG FIRST RIDGELINE

Figure 6



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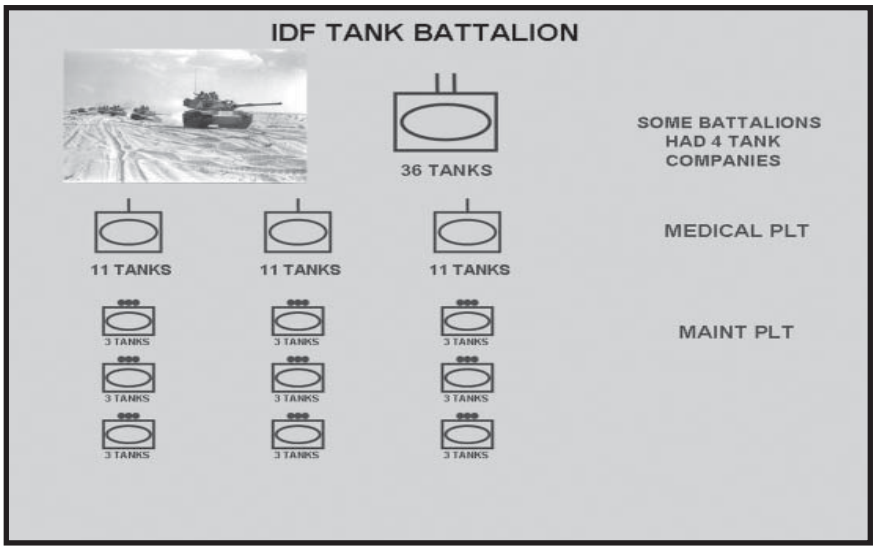


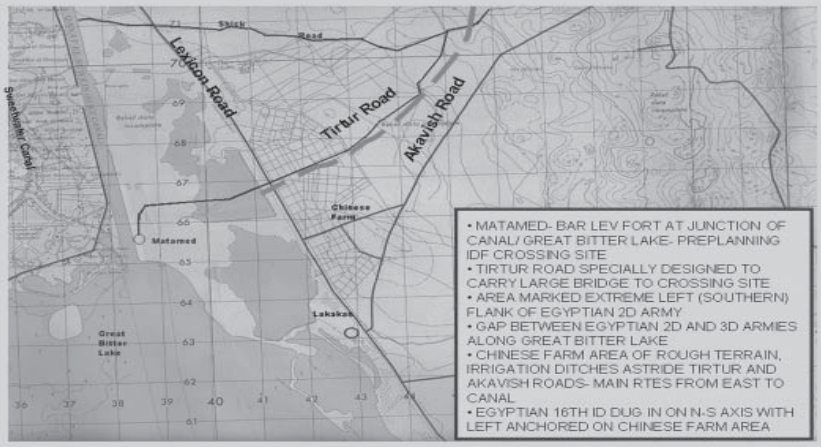
Figure 8

BACKGROUND TIMELINE

- 6 Oct- Egyptians Cross Canal
- 8 Oct- Battle of El Firdan- Piecemeal Attacks by Adan's Division
- 9-14 Oct- Israeli Operational Pause
- 9 Oct- Gap Discovered
- 14 Oct- Egyptian Frontwide Offensive Repulsed
- Night 15/16 October- Crossing Operation Commences

Figure 9

CHINESE FARM/ CROSSING SITE TOPOGRAPHY



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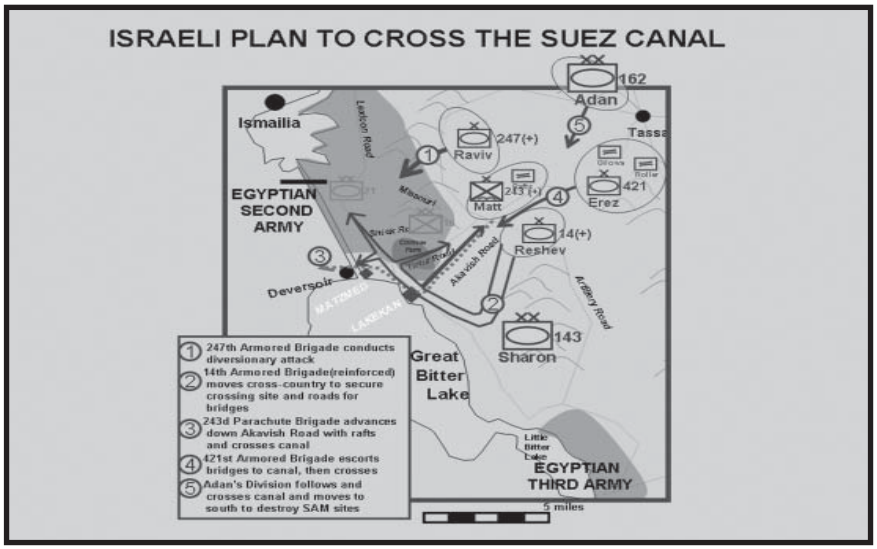

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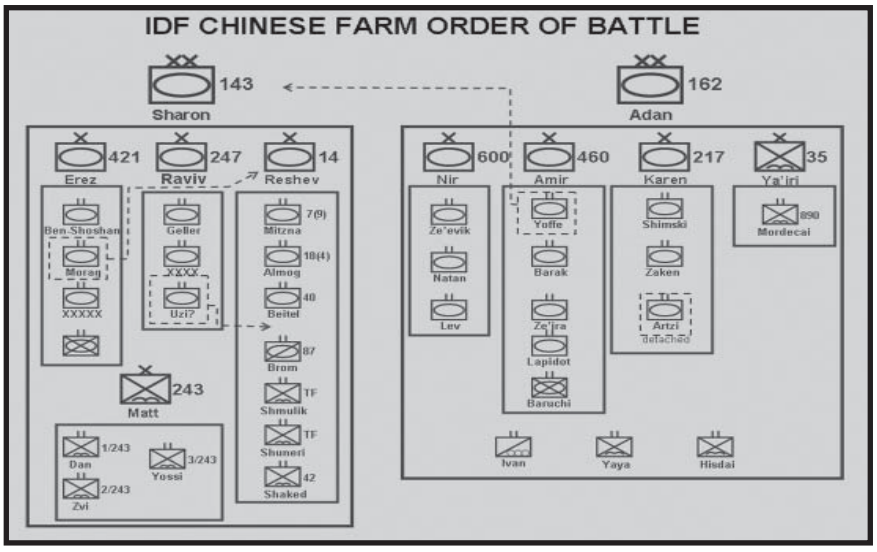

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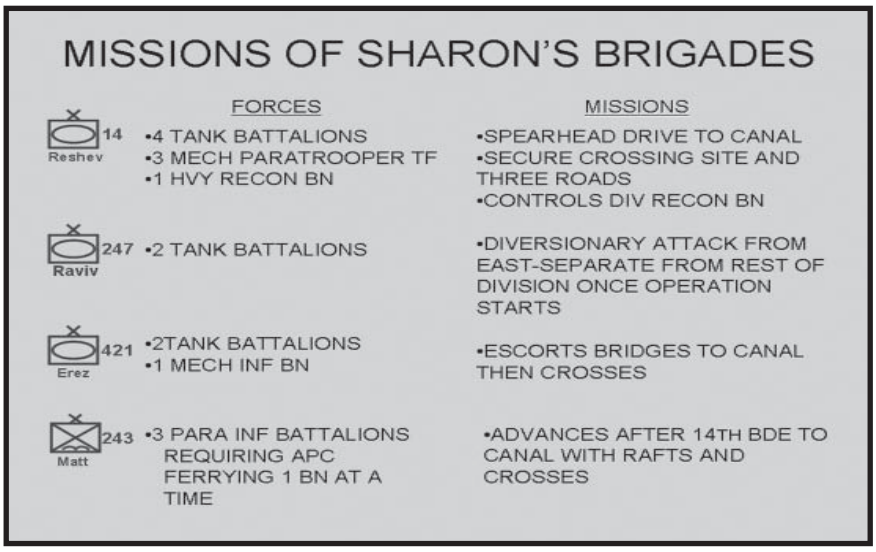

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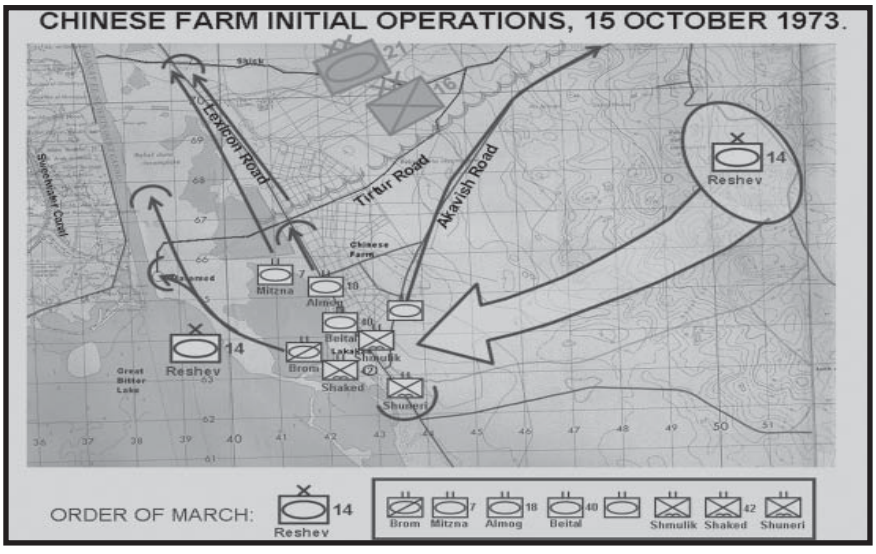
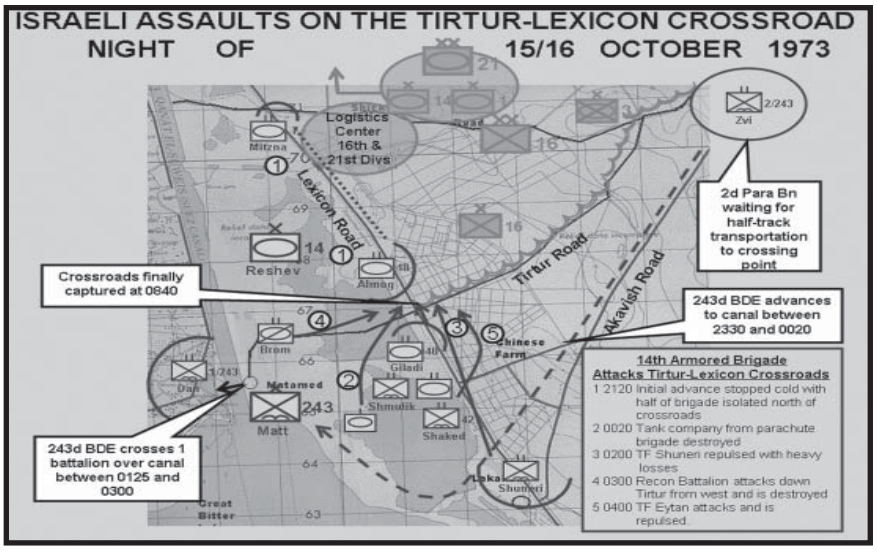


Figure 14

IDF RIVERCROSSING MEANS

- RUBBER BOATS- LIGHT TROOPS OLNY
- GILOWA FERRIES- MOTORIZED MODULAR RAFTS CAPABLE OF CARRYING TANKS
- PONTOON BRIDGE- MOTORIZED MODULAR BRIDGE
- ROLLER BRIDGE- REQUIRED TOWING BY 12 TANKS DOWN SPECIAL ROAD (TIRTUR)

Figure 15



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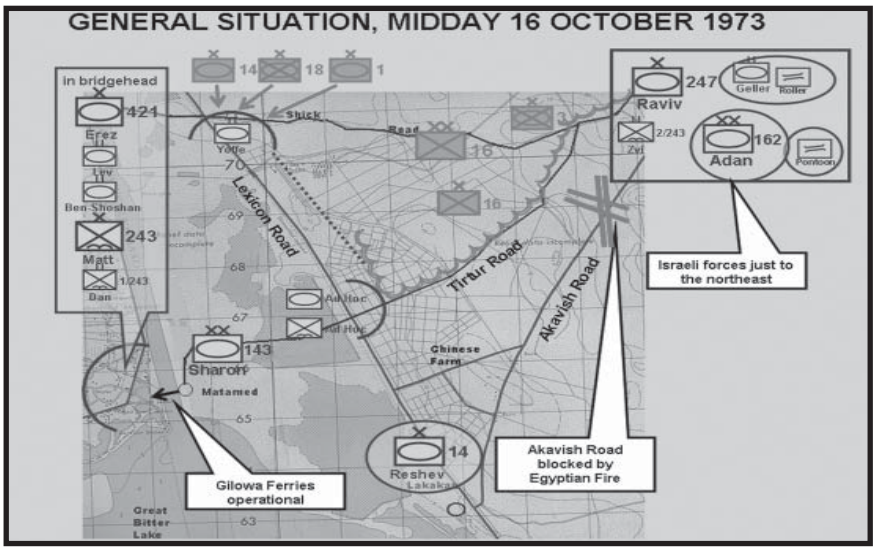

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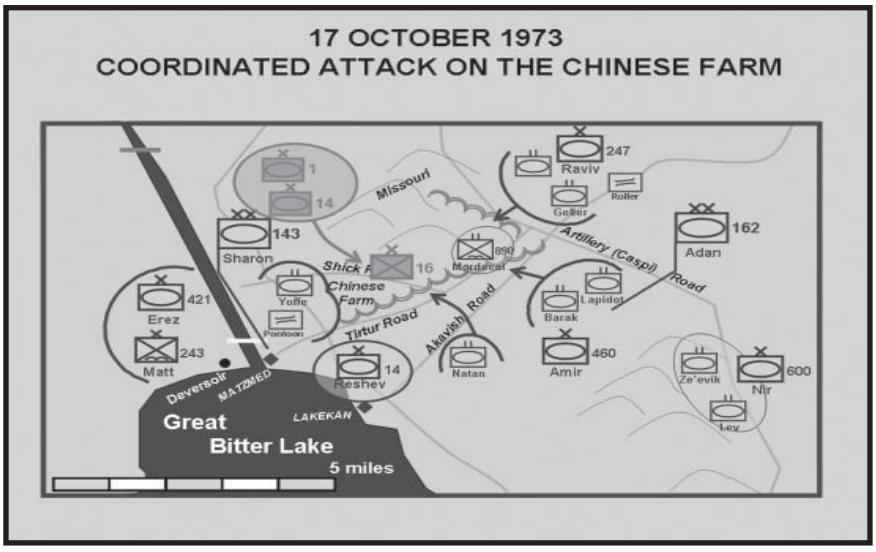
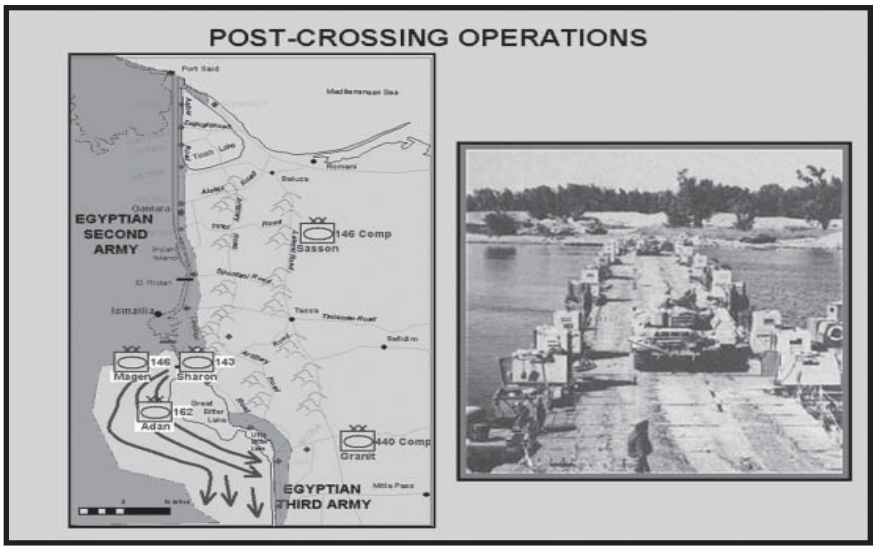


Figure 18

Figure 19



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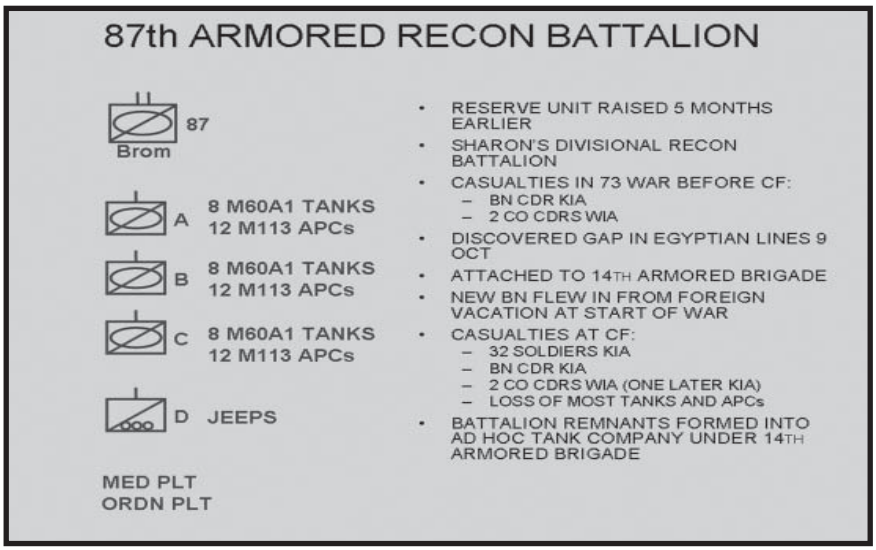

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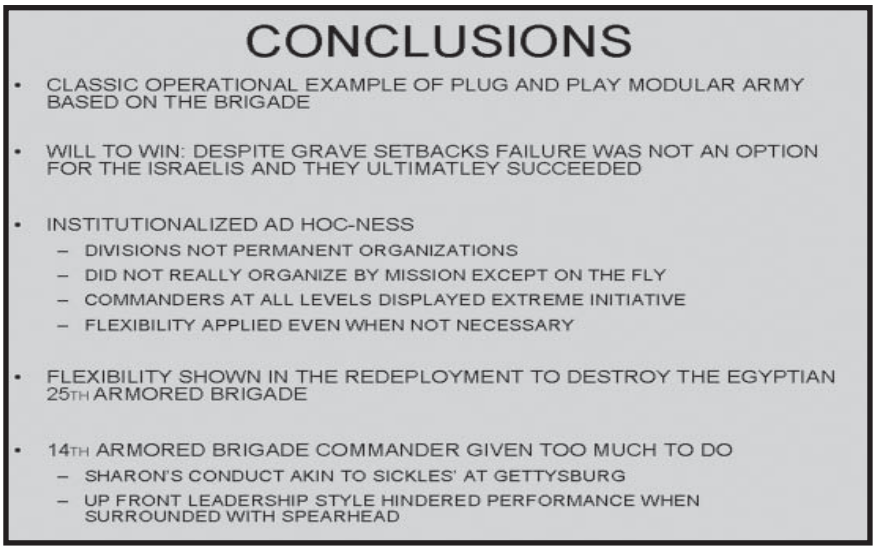


Figure 22

CONCLUSIONS

- MANEUVER FORCE ORGANIZATION
  - NO DISTINCTION BETWEEN RA AND RESERVISTS (70% OF FORCE)
  - MECH INFANTRY LOW STATUS- REPLACED ON FLY BY PARATROOPERS
- UNEVEN TACTICAL INTELLIGENCE
  - RECON BATTALION USED AS A TANK BATTALION AND DESTROYED IN BATTLE
- TOOK TOO LONG TO ORGANIZE A COORDINATED ATTACK ON THE CHINESE FARM (2 DAYS AND 7 FAILED ATTACKS)
  - 5 PIECEMEAL ASSAULTS FROM WEST AND SOUTH (MOST OF BATTALION SIZE OR SMALLER)
  - 2 PIECEMEAL ASSAULTS FROM THE EAST (MOST OF BATTALION SIZE)
  - 1 COORDINATED ASSAULT FROM THE EAST SOUTH AND WEST (OF 5 BATTALION STRENGTH
- GREAT FLEXIBILITY IN SHIFTING FROM COORDINATED CHINESE FARM ATTACK TO SETTING UP REINFORCED DIVISION AMBUSH TO THE SOUTH TO DESTROY EGYPTIAN 25TH ARMORED BRIGADE

Figure 23

"In the Armored Corps we take our orders on the move"

- Colonel Arieh Karen, Commander, Israeli 217th Armored Brigade, 1973

Figure 24

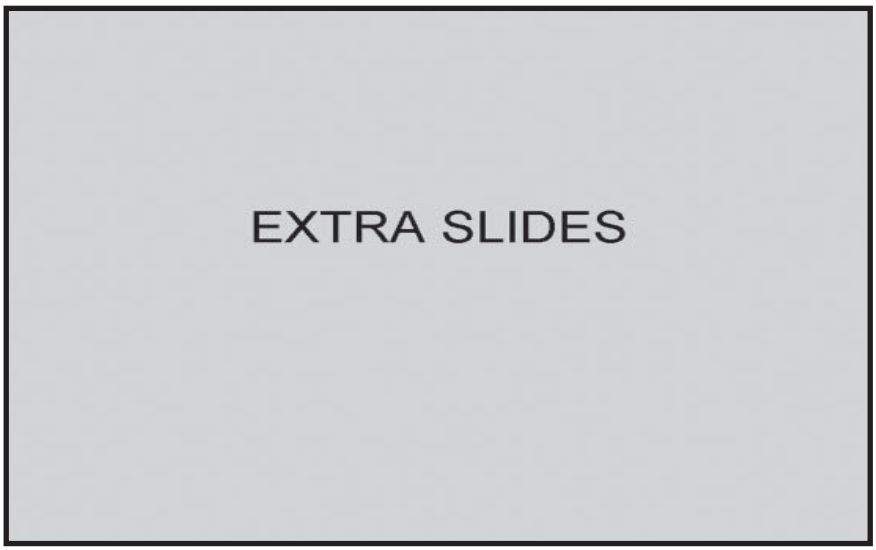


Figure 25

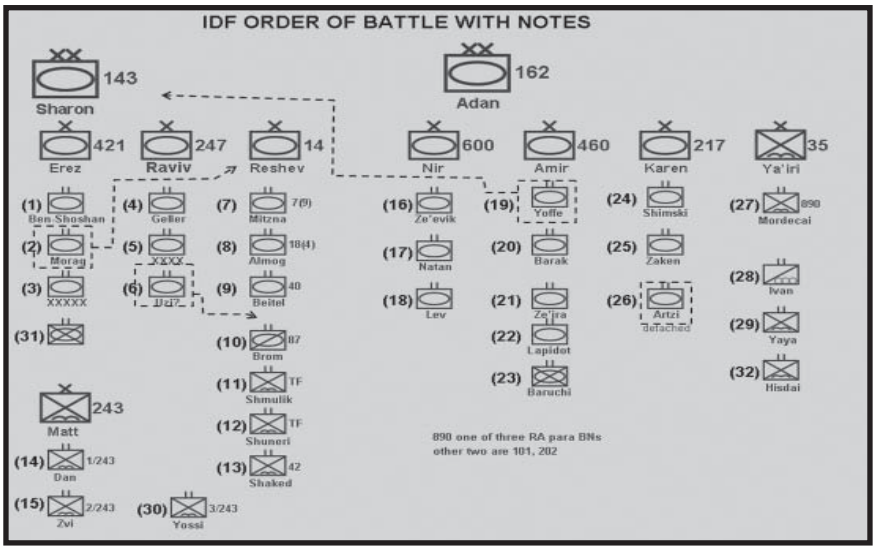


Figure 26

NOTES ON IDF UNITS

NO	Commander	Remarks
	COL Haim Erez	421st Armored Brigade
	COL Raviv	247th Armored Brigade
	COL Amnon Reshev	14th Armored Brigade; RA; originally with Mandler's division, the Sharon's; TF which advanced to the canal
	COL Natke Nir	600th Armored Brigade
	COL Gavriel Gabi Amir	460th Armored Brigade; RA; originally with Mandler's division, then Adan's
	COL Arieh Karen	217th Armored Brigade
	COL Uzi Ya'iri	35th Parachute Brigade; RA; attached with 1 battalion to Adan's div, then whole bde to Sharon; assaulted Chinese Farm
	COL Dani Matt	243d Parachute Brigade; attached to Sharon's division for crossing operation and after

Figure 27

NOTES ON IDF UNITS
CONTINUED

1	LTC Shimon Ben-Shoshan	escorted roller bridge until broke, then first tank BN across canal;
2	LTC Ami Morag	battalion overlooking Adan's attack on 8 Oct withdrawn by Sharon; guarded roller bridge in movement; sent as reinforcement to Reshev 16 Oct by attacking up Tirtur Road from east; got 2/3ds of the way (7 miles) down road before repulsed
3		
4	LTC Yehuda Geller	pulled out of line to tow roller bridge after Ben-Shoshan; detached during battles of early 17 Oct; resumed towing morning of 18th with Tirtur now open, reached canal at last light with bridge mile north of pontoon bridge; attacked Missouri from Lexicon to ne on 21st; heavy losses as attk fortified inf position with just tanks (22)
5		probably unit which attacked Tirtur on 17th and Missoun from the south on the 21st; heavy losses
6	Uzi?	att to Reshev for crossing op; one co up Akavish, escorted Matt's bde back to crossing then was destroyed at TLX, one co tried to go up Tirtur, destroyed near TLX, one co w/ TF Shuneri
7	LTC Amran Mitzna	lead bn in Reshev advance- surrounded at Schick-Lexicon; retreated with great losses; Mitzna badly wounded in leg
8	LTC Avraham Almog	follow on bn to Mitzna's- decimated at TLX; Almog replaced Shaul Shalev, KIA several days before 15 Oct.; ops off LT Zeev Lichtman;
9	MAJ Shaya Beitel	Beital had just assumed command; 3d in line after Mitzna and Almog; mission to move up Tirtur- devasted at TLX and Beitel wounded; CPT Gideon Giladi took over remnants; att to TF Shuneri to clear Tirtur; CPT (MAJ?) Gabriel Vardi conducted one of final attacks on TLX on morning of 16th.

Figure 28

NOTES ON IDF UNITS
CONTINUED

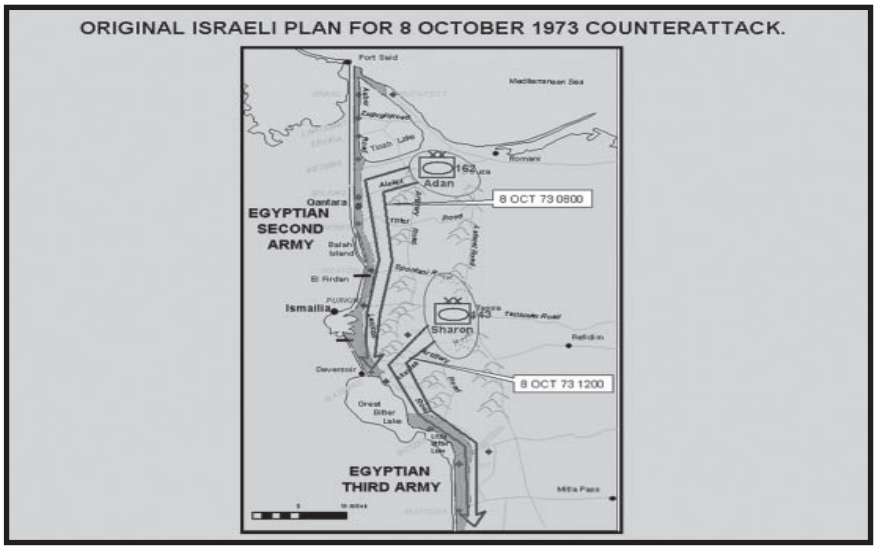
10	LTC Yoav Brom	Sharon's divisional recon battalion, reinforced with additional tanks; Brom KIA at TLX 16 Oct 73; discovered gap in Egyptian lines
11	LTC Schmulik	2 para co's (from 23d Para Bde?)[para recon bn? Rabinovich 375]]
12	Major Natan Shuneri	2 para co's, 106mm RR co on jeeps; companies [made up of recalled vets- Rabinovich 375], attacked TLX at 0200, 16th, with remnants of 40th Tk Bn
13	Shaked	
14	LTC Dan	1st troops across canal
15	LTC Dan Zvi (Ziv?)	2d troops across canal- had to wait for round trip of half tracks- Akavish blocked; portion of Matt's brigade sent down Akavish on morning of 16th escorted by Ben-Shoshan's battalion on half-tracks- forced to turn back
16	MAJ Ze'evik	original commander LTC Assaf Yaguri, POW 8 Oct 73; MAJ Brik acting cdr; LTC Mulla, bn cdr KIA 11 Oct; Ze'evik replaced from div staff
17	LTC Natan	Natan wounded 19 Oct; commanded from stretcher in M113 through CPT Nitzan
18	LTC (Maj?) Giora Lev	escorted Gilowas to Sharon then his 14 tanks were ferried across canal to support Matt's bde and destroy SAM sites; listed on Adan's map as being in attack on 25th Bde as part of Nir's Bde; Lev WIA 19 Oct, replaced by MAJ Micha
19	LTC Amir Yoffe	Originally part of 14th Bde on 6-7 Oct; 20 tanks on 8 Oct; transferred to Karen's bde on 8 Oct as a reinforcement; returned to Amir's bde; attcd to Reshev holding Shick Road line for most of Chinese Farm battle
20	LTC Ehud Barak	Battalion composed of soldiers in USA when war started; supported 35th Bde attack down Tirtur on 17 Oct; Barak later PM of Israel; started with 38 tanks, 10 Centurions, 10 Pattons, and 10 APCs; joined Adan on 13 Oct 73.
21	MAJ Ze'ira	Original commander LTC Haim Adini wounded in charge on 8 Oct

Figure 29

NOTES ON IDF UNITS
CONTINUED

22	LTC Lapidot	Originally a 2 company TF in Amir's bde on 6 Oct, fought on northern flank until assigned to Adan on 10 October
23	LTC Baruchi	half-track mounted infantry; assd after 8 Oct
24	LTC Eliashiv Shimski	Centurion tanks; helped destroy 25th Bde; reached canal west bank near Suez right before ceasefire
25	LTC Nahum Zakem	lead advance on Suez city
26	LTC ? Artzi	Original commander, Dan Sapir, KIA 8 Oct 73; detached holding Ziona position north of crossing sector; returned to div 20 Oct; Artzi KIA 21 Oct 73
27	LTC Yitzhak Mordecai	890th Parachute Battalion; attacked Chinese Farm early on 17 Oct 73 with great losses (50 percent in some companies)
28	MAJ Ivan	mechanized recon bn; mounted on 15 BTR-50s captured in 1967; 150 soldiers
29	Yaya	
30	Yossi Yoffe	third battalion of Matt's brigade; attached to Adan near end of campaign to take Suez city—had been in north near Budapest then helicoptered into bridgehead; fought in Suex city
31		only mentioned in Suez 73 as attached to Reshev for crossing operation; also mentions another separate mech bn attached to Reshev
32	LTC Ya'acov Hisdai	attached to Adan's division near end of war; 80 men, fought in Suex city

Figure 30



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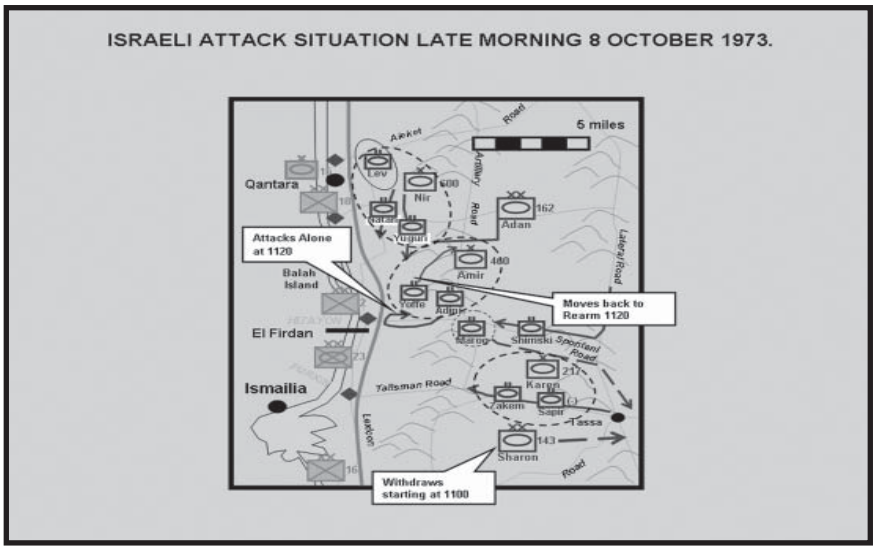

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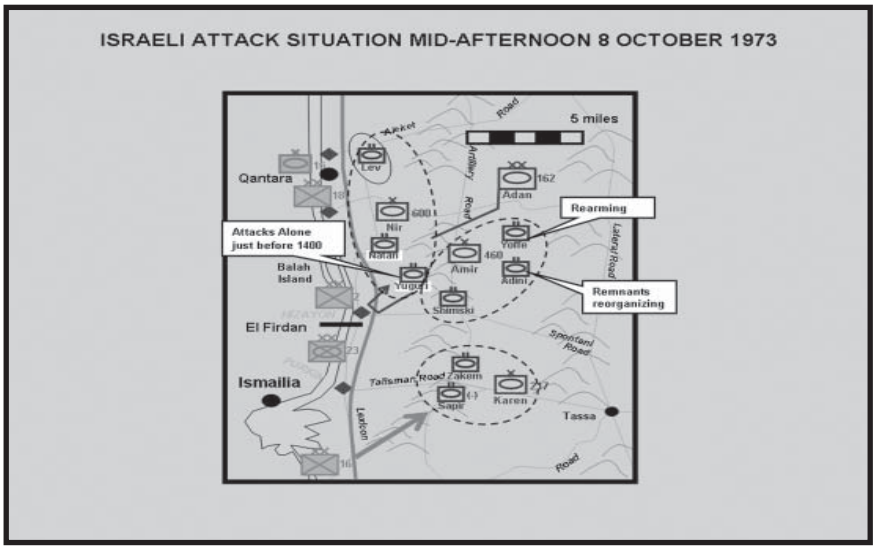

Figure 33

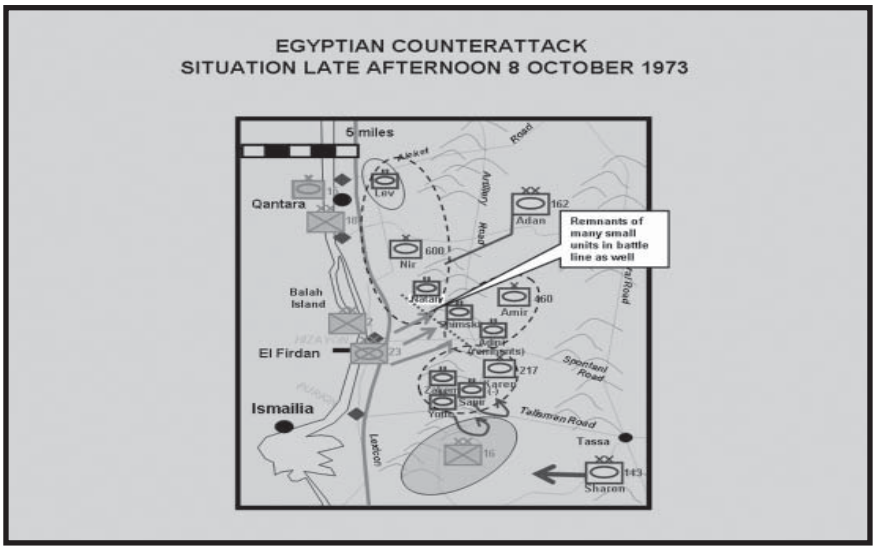

Figure 34

Asymmetric Warfare and Military Thought

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History is marked with the contributions of military chroniclers, historians, strategists and tacticians. In both East and West, men have long-sought to understand the soul of battle and the art of victory. From the earliest writings of the great Chinese strategist and tactician Sun-tzu, to Colonel John Boyd's recent development of the OODA Loop, every aspect of warfare has experienced close examination.[1] With the evolution of government and technology has come the evolution of warfare. Rather than adding to the vast body of military theory, this article examines a number of important works in an effort to determine if, in fact, classic military theory holds the key to a better understanding of modern asymmetric conflict.

Contrary to the work of analysts and scholars examining asymmetric conflict, I argue that many of the strategic and tactical concepts of modern asymmetry are simply restatements of concepts developed decades, centuries, and millennia ago. What is often mistaken for innovation is the rediscovery of forgotten ideas modified by the application of new technology. In assessing prominent works, the focus is not on the primary theoretical developments in each treatise, but on those aspects of military theory relevant to asymmetric conflict. Often, the concepts highlighted are ancillary to the main theoretical focus, but illustrative of the author's conceptual understanding of asymmetry in warfare.

The theoretical developments of asymmetry have taken distinctly divergent paths in the East and West. Developing first in the East, asymmetric means have long dominated Eastern military theory. The same cannot be said of military theory in the West. In the East, strategists developed concepts along a much different line than their Western counterparts. Eastern warfare, from its earliest theoretical conception in Sun-tzu's, *Art of War,* written in the fifth century B.C., to the more recent works of Mao Zedong and Vo Nguyen Giap, have long emphasized defeating an adversary with minimal direct combat.

In distinct contrast, Western theorists have long emphasized the significance of a direct collision between opposing armies. In an environment dramatically different from that of the East, Western warfare developed with a distinct bias in favor of the decisive battle epitomized in Carl von Clausewitz's, *On War*. Conflict in the West has, however, seen the development of strategic and tactical doctrine similar to those dominating Eastern military theory. The early Roman strategist Vegetius emphasized the use of asymmetry in warfare in the decades before the collapse of the Western Roman Empire.

In light of the distinct differences in the development of Eastern and Western military theory, the two are treated independently in the pages that follow. With the East's development of asymmetric theory, Western states, particularly the United States, should not find it unusual that insurgents in Afghanistan and Iraq utilize their current tactics. Abu Musab al-Zarqawi and Osama bin Laden likely never read the work of prominent Eastern military theorists, yet both men utilize the very tactics developed by Sun-tzu, Chairman Mao and General Vo. More than two millennia of conflict between East and West should have certainly led to a convergence of military theory. This is not, however, the case. Where Sun-tzu played a major role in the development of Mao's "mobile guerrilla warfare," Clausewitz and other Western strategists were unfamiliar with his work. Much the same can be said of Eastern theorists and their familiarity with Western military theory.

Because East and West took divergent paths in the development of military theory, each is treated independently, beginning with early Western military thought. From there I move to the work of early Eastern military theorists. The article then progresses to the current day, examining the development of military theory in both the East and the West. In addition to examining those works relevant to modern asymmetric conflict, influential Western works, which offer little to the development of the West's understanding of asymmetry, are, however, briefly discussed in order to highlight the evolution of Western military theory.

In the broad discussion of force transformation for which this article is written, there are three key principles I wish to highlight.

1. The form of conflict the United States is likely to face in the coming years (asymmetric) is not new; rather it is conflict's oldest form.

2. Non-Western cultures have a highly developed strategic and tactical history of asymmetric conflict. With the United States likely to face non-Western adversaries in future conflicts and with the United States' military supremacy likely to remain intact for decades to come, adversaries are likely to rely heavily on **traditional** asymmetric means when confronting the United States.

3. Conventional conflicts are, in fact, an anomaly in the history of the American use of military force. In the more than two hundred cases in which American forces were deployed to zones of conflict, fewer than a dozen can be considered conventional conflicts. With the dominant role asymmetric conflict has played in American military history, the United States needs to maintain a force prepared to achieve victory against likely adversaries, i.e., asymmetric actors.

Early Western Military Thought (Herodotus, Thucydides and Xenophon)

Strategy is derived from the Greek term *strategos*, which is defined as the art of the general. As the developers of strategy, and conversely tactics, it is with the work of the classical Greek historian Herodotus that Western military thought must begin. Herodotus was not a military theorist as are many who followed him. He was the "father of history," as the great Roman politician and orator Cicero called him. It is primarily from Herodotus that the modern world understands the causes, events, and results of the war between Greece and the Persian Empire which began in the middle of the sixth century B.C.[2] Herodotus, in addition to elaborating the reasons for Cyrus' invasion of Greece, provides his readers with an understanding of the strategy and tactics utilized by the Greeks and their Persian adversaries.

What makes Herodotus significant is the understanding he provides of the Greek military system. Like his younger contemporary Thucydides, historian of the Peloponnesian War, Herodotus provides detailed accounts of the plans, stratagems and tactics the Greeks utilized against a superior adversary.[3] According to Herodotus, Greek warfare was based on the hoplite, an infantryman drawn from the yeomanry of the Greek city-states. Heavily armored and carrying a long spear and short sword, the hoplite fought in the phalanx, a tightly packed infantry formation usually eight rows deep. After marching into close proximity to an adversary the phalanx would charge using its crushing weight and protruding spears to break the ranks of the enemy. For nearly a thousand years the hoplite protected Greece from invaders.

Greeks, dependent upon the hoplite, were accustomed to conventional warfare. As Herodotus explains, Athens and its allies never looked to asymmetric means for a defense against a significantly larger Persian invasion force during their protracted conflict. The deciding events in the prolonged war between Greece and the Persian Empire were the battles of Marathon and Salamis. In both battles, outnumbered Greeks used the weight of their heavy infantry (Marathon) and sturdy triremes (Salamis) to defeat larger Persian forces in conventional combat.

Thucydides's *History of the Peloponnesian War* offers an account of the war between Athens and Sparta (431-404 B.C.) in a fashion similar to that of Herodotus. Much like his contemporary, Thucydides provides an account of the war's causes, manner in which it was fought, and the outcome. Thucydides's history provides little evidence that the Greeks, the dominant Western society at the time, understood anything other than conventional warfare. Xenophon's *Anabasis*, which offers an account of the expedition originally led by Cyrus the Younger to depose Artaxerxes II of Persia and Xenophon's subsequent withdrawal of

Greek forces from deep within enemy territory, provides an additional account of the strategy and tactics utilized by Greek hoplites.[4] Again, the development of asymmetric means is not apparent. Greece, as the cradle of Western civilization, rarely faced an adversary employing tactics similar to modern asymmetric actors. Instead, Greeks usually found themselves fighting one another or their nemesis, the Persians. The success of the Greeks against the Persians and the acceptance of a set style of battle in internal conflict led to strategic and tactical stagnation within Greek warfare.

It was not until the conquest of Greece by Phillip II of Macedon and his son, Alexander the Great, that Greek warfare experienced significant modification. Alexander, culturally Greek, but a native of the Macedonian plains, added cavalry to a modified phalanx and developed tactical formations with greater mobility. As the classical Greek historian Arrian explains, it was Alexander's modifications to classical Greek tactics and his exceptional leadership that led Alexander to conquer much of the known world.[5] The tactical modifications of Alexander enabled Greek culture and power to reach its zenith, but stagnation once again set in and Greece lost its preeminent position in the Western world when, at the battle of Pydna (168 B.C.), Perseus of Macedon was defeated by the Roman consul Lucius Aemilius Paulus. Maneuverability proved the deciding factor as the Roman Legions proved more than a match for the Macedonian phalanx.

Roman Warfare (Polybius, Livy, Caesar, Josephus and Vegetius)

With the defeat of Macedon and the Greeks at the battle of Pydna (168 B.C.), Roman power quickly reached its zenith. In addition to waging war against Macedon, Rome continued its conflict with Carthage, which began with the First Punic War (264-241 B.C.). After defeating Carthage in what was primarily a naval war, Rome gained preeminence in the Mediterranean giving Rome the economic power needed to continue its expansion throughout Europe, North Africa, and the Near East. In addition to toppling Carthage from its dominant position in the Mediterranean, the First Punic War brought Hamilcar Barca to power setting the stage for the Second and Third Punic Wars (218-201 B.C.).

Polybius, the classical Greek historian and scholar, also served as tutor to Scipio Africanus, the Younger, and accompanied him on his campaign in North Africa in which Carthage was razed to the ground. Polybius's account of the Punic Wars offers the first account of Roman military strategy and tactics.[6] Rome, unlike the Greek city-states it conquered, found itself in conflict with various adversaries employing a divergent set of strategies and tactics. From the Goths in modern-day France to Carthage in North Africa, Roman Legions succeeded in

defeating numerous adversaries because they continued to adapt to ever-changing circumstances. According to Polybius and Livy, a later Roman historian of the Punic Wars, the greatest advantage a Roman Legionnaire possessed was his superior training and discipline.[7] Throughout much of Roman military history, the Legions, dispatched to conquer new lands and quell rebellion in unruly provinces, faced enemies that often maintained a significant numerical advantage and, with equal frequency, refused to give battle.[8]

Rome, like the Greek city-states, depended largely on infantry and close-quarters combat to destroy an adversary's forces. When Hannibal, commander of Carthaginian forces, crossed the Alps into northern Italy (218 B.C.), Roman forces were caught off guard by the risk Hannibal had taken in crossing the Alps in the dead of winter. Racing from Sicily to meet Hannibal in northern Italy, the consul Sempronius Longus, after an exhausting march of forty days, found Hannibal's forces on the west side of the Trebbia River. Initiating the battle, Hannibal sent his light cavalry across the frozen river against the Romans. The Carthaginians feigned a route in what is one of the East's greatest tactical developments, the Parthian shot, luring pursuing Romans across the Trebbia where they were cut down by heavy cavalry and infantry.[9] Throughout Hannibal's march across the Italian peninsula during the Second Punic War (218-217, 218-204 B.C.), Hannibal acted unexpectedly, giving battle only when he had carefully planned for victory.

After Rome's defeat at Trebbia, Hannibal marched south where the newly-elected consul Gaius Flaminius was set to ambush the Carthaginians at Arretium. Hearing of the ambush, Hannibal marched around the Romans forcing them to pursue his army. At Lake Trasimene, Hannibal ambushed the consular army annihilating the only force standing between Hannibal and the capital.[10] After being badly defeated in two battles in which Hannibal had utilized asymmetric tactics, Rome elected Fabius Maximus dictator. This proved a fortunate turn of events for Rome because Fabius had long advocated refusing battle to Hannibal. Instead, he implemented a strategy, which sought to starve and harass Hannibal until he was forced to leave the Italian peninsula. Fabius's scorched earth tactics quickly proved effective. In concert with this policy, Fabius harassed Hannibal's lines of supply and communication. When Hannibal sought to bring the Romans to battle, they quickly dispersed and retreated to the hills and mountains.

The effectiveness of Fabius's strategy and tactics proved little to the people of Rome, who found it contemptuous to refuse battle to an enemy. The effectiveness of Fabius's methods is unquestionable and led to the development of the term "Fabian tactics" as a description for various asymmetric tactics. For the West, the campaign of 218-217 B.C. marked the first time Rome developed a strategic plan

built on the utilization of asymmetric means. The developments of Fabian were, however, short-lived as Rome quickly returned to conventional warfare.

After nearly defeating Hannibal without having fought a single battle, Fabius was replaced by the consuls Lucius Aemilius Paulus and Caius Terentius Varro who, leading the largest Roman army ever assembled (70,000 men), set out to force Hannibal into a decisive battle. The Roman and Carthaginian armies met near the Apulian village of Cannae where, in one of history's greatest battles, Hannibal drove the Roman cavalry from the field, enabling his cavalry and heavy infantry to surround the Romans. From that point, the Legionnaires were forced in on themselves, creating such a tightly packed mass that they could not draw their weapons. At the hands of a smaller Carthaginian army, 50,000 Romans perished. Cannae was the greatest defeat ever suffered by Rome.[11]

Rather than returning to the strategy and tactics of Fabius, Rome raised a new army and continued the conventional conflict that had, thus far, proven disastrous. For another twelve years Hannibal fought the Romans in Italy and Iberia before suffering his lone defeat at the battle of Zama (202 B.C.), which ended the Second Punic War. With the defeat of Hannibal, Rome rapidly grew in wealth and power. And with the growing power of Rome came its expansion into the civilized and uncivilized world where the Legions fought adversaries employing tactics dramatically different from their own.

Julius Caesar, perhaps better than any other Roman commander, understood the methods of the uncivilized tribes in the West. After nine years of campaigning in Gaul, Germania and Britain, Caesar had conquered much of Europe and created an efficient Roman military system, which depended on the superior training and discipline of its Legionnaires to defeat tribal armies fighting on their home soil and at a numerical advantage. Caesar's *The Gallic Wars* provide a detailed account of the people and campaigns faced by Caesar and his Legions.[12]

A prolific chronicler of his experiences, Caesar illustrates to the modern reader why he is often considered one of history's great captains, yet he offers relatively limited insight into his strategic and tactical developments. The same is true of his other great work, *The Civil Wars*, in which he details the collapse of the Triumvirate and his own rise to power.[13] Although Caesar transformed the Legion into a professional army that — unlike the Legions of the Punic Wars—maintained its Legionnaires for many years, developing the most skilled and disciplined soldiers in the world, Caesar wrote as a historian of his conquests leaving those who came after him to their own devices when extracting strategic and tactical insights from his work.

Rome's expansion throughout Europe and the Mediterranean led to frequent and often prolonged conflicts between occupying forces and native populations.

Among the most significant of these conflicts was the Great Jewish Revolt (66-73 A.D.), which was chronicled by the Jewish rebel-turned-Roman citizen and historian, Josephus. Judea, a province of the Roman Empire since 6 A.D., chafed under the rule of Roman procurators who forced a devout Jewish people to worship or pay tribute to Roman deities. Led by John of Giscala and Simon ben Giora, Jewish rebels executed a well-crafted asymmetric campaign against the superior forces of Cestius Gallus, whose Legion was nearly obliterated at Beit-Horon. According to Josephus, the Jewish revolt saw early success as its small bands of rebels attacked isolated Roman garrisons utilizing tactics similar to those employed by Fabius Maximus against Hannibal.[14] Emperor Nero responded to the defeat of Cestius by sending Vespasian and 60,000 men to quell the Jewish revolt. By 66 A.D. Vespasian controlled northern Judea, which suffered near total destruction at the hands of the Romans.

Caesar, in his campaigns in Gaul, developed an effective strategy for combating the asymmetric tactics of the Gauls: depopulation. On occasion, Caesar killed every man, woman and child in a conquered region or sold the surviving women and children into slavery. By depopulating an area, Caesar denied enemy troops the logistic support necessary for sustaining viable opposition to Rome. Caesar's tactics also discouraged potential adversaries from confronting the superior might of the Roman army.

Utilizing the tactics of his predecessor, Vespasian depopulated much of northern Judea, with many of Caesar's strategic goals in mind. It was not, however, until 70 A.D. that Titus Flavius, son of the newly-crowned Emperor Vespasian, conquered the Jewish capital of Jerusalem, effectively ending Jewish resistance.[15] Josephus records that Titus's men razed the Temple of Solomon, burning the city, and slaughtering its citizens. In total, Judea lost a minimum of 750,000 inhabitants, with estimates ranging as high as 1.5 million. Josephus's account of the Great Jewish Revolt illustrates the manner in which Rome dealt with adversaries who themselves utilized asymmetric tactics. In many instances, those who faced Rome in conventional conflict suffered the destruction of their army and the death of their leadership, but the citizenry went unharmed. The harsher tactics of Caesar, Vespasian and Titus were reserved for adversaries who refused to stand and fight.

Aeneas the Tactician, writing in the fourth century B.C., was the first among Western strategists to systematically examine warfare.[16] It was, however, not until Flavius Renatus Vegetius's *Epitoma Re Militaris* (A Summary of Military Matters) that a comprehensive strategic and tactical analysis of Roman warfare was written.[17] Writing in the late fourth century A.D., Vegetius sought to restore

a declining Roman Empire to its former glory by reinvigorating the institution responsible for Rome's dominance of the known world: the Legions.

Epitoma Re Militaris, considered the greatest work of military theory before *Vom Kriege* (On War), offers a great deal more than a simple description of Roman warfare at its height. Beginning with the formation of the Legions, Book One offers criteria for the selection of Legionnaires and the training needed to restore the physical strength and skill to the once-feared Legionnaire, an area in dramatic decline by the end of the fourth century. According to Vegetius, "Victory in war does not depend entirely upon numbers or mere courage; only skill and discipline will ensure it." He continues, "We find that the Romans owed the conquest of the world to no other cause than continual military training, exact observance of discipline in their camps and unwearied cultivation of the other arts of war."[18] While Vegetius was speaking to the Emperor Valentinian, as commander of the Legions, Vegetius's maxim is applicable to conventional and asymmetric actors alike. The success of al Qaeda is, in large part, due to the highly skilled and disciplined operatives that form the loosely organized network. This does not suggest that al Qaeda operatives are as equally well trained as American, British and other allied militaries but it does suggest that the level of skill and discipline achieved by al Qaeda enables the organization to wage a global terror campaign against the United States, while continuing to elude the combined efforts of the world's states.

Vegetius turns, in Book Two, to the organization of the Legions. Here he elucidates the formation of the Legions and supporting units, distribution of rank, promotion within the Legions and role of support personnel. While providing a detailed description of the Roman Legion's composition, Vegetius offers few insights into asymmetric conflict.

Book Three, however, proves Vegetius's most prolific contribution. Here he discusses military strategy and tactics, admonishing the Emperor and military leaders with maxims similar to those of Sun-tzu. It was because of the concepts and maxims offered in Book Three that Henry II of England, Richard the Lionheart, Ludwig the Just, Niccolo Machiavelli, Montecuccoli and Field Marshal Ligne considered *Epitoma Re Militaris* the single greatest work of military theory ever written. Vegetius begins by warning the Emperor against deploying large armies in the field. He notes that Rome seldom deployed more than two Legions (approximately 20,000 men) to an area of conflict. In a style similar to J.F.C. Fuller, Vegetius warns, "An army too numerous is subject to many dangers and inconveniences. Its bulk makes it slow and unwieldy in its motions; and as it is obliged to march in columns of great length, it is exposed to the risk of being continually harassed and insulted by inconsiderable parties of the enemy."[19]

Instead, Vegetius favors mobility over mass relying on the superior skill and discipline of the Legions to strike decisive blows at unexpected times and places.[20] During the reign of Valentinian, Rome's position remained precarious as the Legions, long in decline, no longer possessed the ability to defeat an adversary in conventional conflict.

Vegetius, understanding the weakness of the Legions, wisely suggests, "Good officers decline general engagements where the danger is common, and prefer the employment of stratagem and finesse to destroy the enemy as much as possible in detail and intimidate them without exposing our own forces."[21] Reminiscent of Sun-tzu, Vegetius's preference for mobility, speed and deception illustrates a clear understanding of Rome's adversaries and the asymmetry of conflict.[22] Vegetius does not stop with these suggested reforms. He further emphasizes the need for flexibility in strategic and tactical planning as well as in the mental agility of commanders. Continuing with his emphasis on flexible leadership, Vegetius admonishes commanding generals, in a fashion similar to Sun-tzu's maxim "know thy enemy and know thy self" stating, "It is essential to know the character of the enemy and of their principal officers – whether they be rash or cautious, enterprising or timid, whether they fight on principle or from chance, and whether the nations they have been engaged with were brave or cowardly." He adds, "Thus a vigilant and prudent general will carefully weigh in his council the state of his own forces and of those of the enemy, just as a civil magistrate judging between two contending parties."[23]

From this point, Vegetius uses the remainder of Book Three for a detailed discussion of Roman order of battle, with one exception. Before offering a detailed description of conventional order of battle, Vegetius speaks to the veteran soldier saying:

> *He should form ambuscades with the greatest secrecy to surprise the enemy at the passage of rivers, in the rugged passes of mountains, in defiles in woods and when embarrassed by morasses of difficult roads. He should regulate his march so as to fall upon them while taking their refreshments or sleeping, or at a time when they suspect no danger and are dispersed, unarmed and their horses unsaddled.*[24] *He should continue these kinds of encounters till his soldiers have imbibed a proper confidence in themselves…If the enemy makes excursions or expeditions; the general should attack him after the fatigue of a long march, fall upon him unexpectedly, or harass his rear. He should detach parties to endeavor to carry off by surprise any quarters established at a distance from*

> *the hostile army for the convenience of forage or provision. For such measures should be pursued at first as can produce no very bad effects if they should happen to miscarry but would be of great advantage if attended with success.*[25]

Vegetius continues suggesting that a commander should sow dissension among the adversary's ranks in an effort to create discord in the opposing army and society.[26]

In integrating asymmetric and conventional warfare in Book Three, Vegetius, like Fabius Maximus, illustrates an ongoing need for flexibility, which, in some instances, may call for pitched battle and in others strategic asymmetry. After examining many classical military texts in his effort to develop a comprehensive guide to warfare, Vegetius sees the need to encourage innovation within strategic and tactical doctrine. By the time Vegetius writes *Epitoma Re Militari*, the Roman Empire had split into East and West, with the Goths sacking Rome and the Legions suffering defeat at the hands of the Huns, Goths, Vandals and other tribes. The declining state of the Legions led Vegetius to ask, "Are we afraid of not being able to learn from others what they before have learned from us?"[27]

Valentinian and subsequent emperors of the Western Roman Empire failed to adjust to the increasing pressure of northern tribes. In 410 A.D. Rome was sacked and from that point forward, the Western Empire rapidly declined. Had Rome reformed the Legions and developed an understanding of asymmetry introduced by the Goths and Vandals, perhaps history would have written a different end for the Roman Empire. The failure to adapt to the changing face of warfare doomed the once dominant empire to a fate from which it never recovered.

The End of Early Western Theory (Machiavelli)

The millennia following Vegetius saw significant evolution in warfare as the era of heavy infantry ended and that of heavy cavalry began. Soon after the final collapse of the Western Roman Empire in the sixth century, the mounted knight came to prominence as the dominant force in European warfare. And with the knight, came feudalism, which dominated Europe until the dramatic social changes brought on by the French Revolution (1789-1799) and the Napoleonic Wars (1804-1815). The millennia proceeding Vegetius also marked a decline in the development of Western military theory. It was not until 1520 that a significant treatise on warfare appeared in Europe. At this time the author of the widely read *Il Principe* (The Prince), Niccolo Machiavelli, penned what would be the last military treatise before firearms revolutionized warfare.

Machiavelli's *Dell 'arte della guerra* (Art of War) sought to find the laws and principals of warfare by examining the work of Tacitus, Frontinus, Polybius, Xenophon, Livy and Vegetius.[28] Written in the form of a dialogue between the main character, Fabrizio Colonna, and a group of young men, the *Art of War* was read and admired by military commanders from Frederick the Great to Napoleon. Machiavelli's work, while widely read and admired, made little tactical impact on warfare. Much to Machiavelli's disadvantage, he failed to see the revolution firearms would bring to warfare. Instead, he advocated a form of warfare similar to that of early Rome. The Florentine's lack of vision left the *Art of War* less than a rival to his greatest work: *The Prince.*

New concepts are, however, introduced or reintroduced in some cases, into Western military theory. Among Machiavelli's greatest contributions is his advocacy of total warfare waged by citizen soldiers and national militias.[29] For the patriotic Florentine, conscription and the establishment of the militia, to confront the 16th century mercenary armies of the European monarchs, serves to imbibe nationalism among the citizens of a nation.[30] Much as in the *The Prince*, Machiavelli's conception of war as a no holds barred contest in which victory is the aim, leads him to reject conventional morality as a governing force in conflict. For Machiavelli, war creates its own morality which is based on values such as opportunity and expediency.[31] Machiavelli's explicit rejection of just war proves a precursor to the development of *realpolitik* several centuries later.[32] It also challenges the Western conception of war as an activity reserved for the nobility.

Book Five of the *Art of War* finds Fabrizio offering strategic and tactical advice to his young listeners, who, familiar with conventional conflict, find Fabrizio's advice exceptional. Here, Machiavelli distinguishes his thought from his contemporaries by advocating the use of deception, ambush, unpredictability, and stratagems as key tactical devises.[33] Unlike military commanders of Machiavelli's time, the Florentine sees little purpose in confronting an adversary in open combat, particularly if the adversary possesses superior strength.[34] Instead, Machiavelli focuses on the ends of war (victory) rather than the means by which it is fought. Thus, if asked: Do the ends justify the means? Machiavelli would respond with a resounding: Yes!

In both conventional and asymmetric conflict, combatants frequently take a Machiavellian position concerning the use of tactics, which many find objectionable.[35] The attacks of September 11, 2001, and Osama bin Laden's justification for them is a case in point.[36] Although neither is unique to any one form of warfare, the use of tactics that target non-combatants is increasingly becoming strategic doctrine for asymmetric actors as they adapt to the superior might of the

United States military and are forced to justify the means by which they achieve their ends.

Early Chinese Military Theory (Sun-tzu)

Older than Western civilization by more than a thousand years, the Sinitic world began its examination of warfare at a much earlier time than the West. By the Spring and Autumn Period (722-481 B.C.), China, the center of Sinitic civilization, developed a feudal system similar to that which developed in the West more than a thousand years later. The Spring and Autumn, and Warring States Periods that followed, were marked by continual warfare as competing kingdoms sought the conquest of their neighbors and the unification of China under one ruler.

It was sometime between the late Spring and Autumn and early Warring States Periods that Sun-tzu penned his famous treatise, *The Art of War*, for the King of Wu.[37] Warfare in China, by the time of Sun-tzu, was developed into a highly ritualized act with combatants expecting an adversary to meet on open ground for set piece battle. In those instances in which a weaker combatant refused to give battle, an attacking force would besiege an adversary retreating behind his city walls. Thus, *The Art of War* was revolutionary in the principles it introduced. Sun-tzu was the first strategist to develop a systematic treatise on warfare, which advocated radically altering warfare, rejecting conventional tactics.

He was not, however, the last. Sun-tzu's *The Art of War*, the writing of Wu-tzu, Ssu-ma Fa's *The Methods of the Ssu-ma, Questions and Replies Between T-ang T'ai-tsung and Li Wei-kung, Three Strategies of Huang Shih-kung,* and T'ai Kung's *Six Secret Teachings* were compiled by scholars of the Sung Dynasty as the *Seven Military Classics*.[38] Like *The Art of War*, these additional texts emphasize asymmetry and the Tao in warfare. Closely guarded for their military secrets, the *Seven Military Classics* were read by few kings, generals, and emperors.

Rather than discussing each of the *Seven Military Classics*, I focus on *The Art of War*, which receives the greatest attention in the West. It also plays a prominent role in the development of later Eastern and Western theory unmatched by the other six military classics.[39]

Sun-tzu begins *The Art of War* by elaborating his general principles of warfare. Highest among these is the principle of winning without fighting. Here Sun-tzu warns commanders against seeking pitched battles. He counsels, "The highest realization of warfare is to attack the enemy's plans; next is to attack their alliances; next to attack their army; and the lowest is to attack their fortified cities. Thus one who excels at employing the military subjugates other people's armies without engaging in battle, captures other people's fortified cities without prolonged fight-

ing. He must fight under Heaven with the paramount aim of 'preservation.' Thus his weapons will not become dull, and the gains can be preserved."[40] Chinese history is littered with the remains of costly conflicts in which Sun-tzu's highest principle is violated with great and bloody force.[41] Although considered one of China's great works, *The Art of War* and the asymmetry it introduces to Chinese warfare has often fallen on deaf ears. As later sections will illustrate, it was not until the beginning of the 20th century that Sun-tzu's work played a major role in the conduct of Eastern warfare.

Often credited with providing inspiration to modern asymmetric actors, *The Art of War* actually addresses conflict between states. In many instances, the ascription of concepts and tactics used by guerrillas, terrorists and other non-state actors to the work Sun-tzu is erroneous. Asymmetry, for Sun-tzu, enables conventional military forces to overcome their adversaries with the least loss of life and wealth. Sun-tzu's purpose in writing is often overlooked.

To illustrate this point I turn to Sun-tzu's general principles where he says, "Whenever possible 'victory' should be achieved through diplomatic coercion, thwarting the enemy's plans and alliances, and frustrating his strategy." He further adds, "Preserving the enemy's state capital is best, destroying their capital is second best. Preserving their army is best; destroying their army is second best…For this reason attaining one hundred victories in one hundred battles is not the pinnacle of excellence. Subjugating the enemy's army without fighting is the true pinnacle of excellence."[42] Throughout *The Art of War*, Sun-tzu emphasizes the need for self-control and the obligation of avoiding all engagements without first conducting detailed analysis of the economic, military and political circumstances in each of the adversarial states. As Sun-tzu says, "Warfare is the greatest affair of state, the basis of life and death, the Way (Tao) to survival or extinction. It must be thoroughly pondered and analyzed."[43]

Setting Sun-tzu apart from many modern asymmetric actors is his emphasis on rational action. Where many 20th century guerrilla movements and 21st century terror networks act based on a deep seated hatred of their perceived enemy, Sun-tzu warns against allowing personal emotions, such as anger and hatred, from influencing military decisions. When emotions direct action a ruler risks losing the mandate of Heaven, which Sun-tzu considers necessary for victory. This emotional and spiritual component of Sun-tzu differs significantly from the *realpolitik* of Machiavelli and the Islamic fundamentalism of Osama bin Laden.

For Sun-tzu, war is the proper use of *ch'i* (unorthodox) and *cheng* (orthodox). In his clear preference for the unorthodox Sun-tzu says, "Warfare is the Way (Tao) of deception. Thus although [you are] capable, display incapability to them. When committed to employing your forces, feign inactivity. When [your objec-

tive] is nearby, make it appear as if distant; when far away, create the illusion of being nearby." He continues, adding, "If they are substantial, prepare for them; if they are strong, avoid them…If they are angry, perturb them; be deferential to foster their arrogance." Sun-tzu concludes saying, "Go forth where they will not expect it."[44] Colonel Douglas M. McCready juxtaposes warfare, as seen by Sun-tzu, and that of the West saying, "One difference between Sun-tzu's approach and the American way of war can be seen as the difference between the Asian game of Go and the Western game of Chess. In Go, the opponents place their pieces so as to maximize their control and restrict their opponent's options. The enemy loses pieces and the game by being outmaneuvered, not through direct attack. In Chess, the goal is to capture the opponent's key piece, the king. This requires territorial control by capturing enemy pieces so they cannot threaten one's own king and so that they cannot protect their own king."[45]

In making this distinction, McCready addresses one of the central differences between the conventional conflict of the West and the asymmetry of Sun-tzu: attrition. Interestingly, in *The Art of War*, Sun-tzu never discusses attrition as a fundamental element of warfare. Instead, he focuses on developing strategic and tactical concepts that seek to preserve one's own economic, military and political assets. It is preservation, as a motivating force, that leads Sun-tzu to move away from the conventional tactics of his time and toward the asymmetry for which he is known. Sun-tzu's most frequently quoted statement on leadership is a warning to aggressive and reckless commanders willing to suffer heavy casualties for sake of honor and pyrrhic victories. He warns, "Thus it is said that one who knows the enemy and knows himself will not be endangered in a hundred engagements. One who does not know the enemy but knows himself will sometimes be victorious, sometimes meet with defeat. One who knows neither the enemy nor himself will invariably be defeated in every engagement."[46]

Unlike Western theorists, who have long seen attrition as a key aspect of warfare, Sun-tzu's emphasis on preservation, through asymmetric means, requires military commanders to act with a level of skill unnecessary in Western conflict. Where the Western military commander seeks to hone the skills of his men through repetitive drill and simplification of tasks, Sun-tzu seeks to move warfare to as much an intellectual activity as a physical one. This point is illustrated when he says, "[Simulated] chaos is given birth from control; [feigned] weakness is given birth from strength. Order and disorder are a question of numbers; courage and fear are a question of strategic configuration of power (*shih*); strength and weakness are a question of the deployment [of forces] (*hsing*)." Sun-tzu concludes, "Thus one who excels at warfare seeks [victory] through the strategic configuration of power (*shih*), not from reliance on men. Thus he is able to select men and employ strategic power (*shih*)."[47]

Epaminondas, Sherman, Rommel, Patton, and MacArthur grasped the innate truth in Sun-tzu's principles, demonstrating the validity of the ancient Chinese strategist's concepts in their respective campaigns.[48] On the contrary, the strategic and tactical developments of Mao Zedong and Vo Nguyen Giap, while utilizing aspects of Sun-tzu's tactical innovations, fail to understand his larger conception of warfare.

The question then remains: What aspects of *The Art of War* are most relevant to current developments in warfare, and the conflicts in Afghanistan and Iraq? Simply stated, deception, according to Sun-tzu, is the Tao (Way) of war and the objective of conventional (American forces in Afghanistan and Iraq) and unconventional (Taliban and al Qaeda fighters) forces. Asked by the King of Wu, "The enemy is courageous and unafraid, arrogant and reckless. His soldiers are numerous and strong. What should we do?" Sun-tzu replied, "Speak and act submissively in order to accord with their intentions. Do not cause them to comprehend [the situation], and thereby increase their indolence. In accord with the enemy's shifts and changes, submerge [our forces] in ambush to await [the moment]. Then do not look at their forward motion nor look back to their rearward movement, but strike in the middle. Even though they are numerous, they can be taken. The Tao for attacking the arrogant is to not engage their advance front."[49] American forces in Iraq are experiencing the tactical application of Sun-tzu's reply. They, in turn, have not responded in kind. Instead, American commanders continue to rely on superior firepower, rather than deception.

Linear Warfare
(Frederick II, Guibert, Beulow, Suvorov, Napoleon and Jomini)

By the end of the Thirty Years War and the creation of the Peace of Westphalia (1648), the musket and the cannon rapidly became the most important weapons in Western warfare. The *tercio*, a Spanish infantry formation of 3,000 men, one-third of whom bore muskets and two-thirds the pike, dominated European warfare in the 16th and early 17th centuries. Gustavus Adolphus, King of Sweden (1611-1632), recognized the emerging power of firearms and modified the *tercio* by employing two-thirds musketeers and one-third pike-men. He also placed cannons on mobile carriages giving his armies increased firepower and greater maneuverability. Gustavus Adolphus's innovations turned Sweden into a major European power while signaling the beginning of the new era of linear warfare. The strength of the *tercio*, like the phalanx, was in its mass. Firearms, however, required thinner ranks because of the need to increase the volume of fire. Gustavus Adolphus's death during the battle of Lutzen (1632) prematurely ended the career of the 17th century's most capable commander, yet the development of linear tactics continued in the century after his death.[50]

From the Peace of Westphalia to the Seven Years War (1756-1763) Europe remained at relative peace with war kept from turning into pan-European conflict, as was true of the Thirty Years War (1618-1648). The Seven Years War once again brought much of the Continent and North America into conflict. Frederick II, the Great of Prussia proved to be the 18th century's most capable commander and a prolific writer of letters, manuals and military instructions. He did not, however, attempt a comprehensive analysis of war, as would come in the years after the defeat of Napoleon.

Frederick the Great, often considered one of history's great commanders, did not develop the powerful Prussian military system which dominated European warfare for more than two centuries. That credit belongs to his father, Frederick William I. Frederick the Great's contributions turned the Prussian Army into the most disciplined and skilled army on the Continent. He did so by molding Prussian peasants into unwavering soldiers who feared their officers more than the enemy.[51]

Frederick was a commander of his time, maximizing the efficiency of his troops, but also constraining his strategic and tactical developments to the capabilities of 18th century cannon and musket.[52] He did, however, read Vegetius and classical theorists incorporating their thoughts into his own. The maxims of Frederick best illustrate the dichotomy of his time, where linear warfare dominated and the innovation and asymmetry of the classical world played a minor role in warfare:

1. Your strategy must pursue an important objective. Undertaking only what is possible and reject whatever is chimerical.

2. Never deceive yourself, but picture skillfully all the measures that the enemy will take to oppose your plans, in order to never be caught by surprise.

3. Know the mind of the opposing generals in order to better divine their actions, to know how to force your actions upon them, and to know what traps to use against them.

4. The opening of your campaign must be an enigma for the enemy, preventing him from guessing the side on which your forces will move and the strategy you contemplate.

5. Always attempt the unexpected: this is the surest way to achieve success.[53]

Frederick's maxims can easily be mistaken for those of Sun-tzu because of their relevance to asymmetric conflict, yet the great Prussian commander rarely utilized his own strategy in such a manner. Instead, he fought linear battles relying on the superior discipline, skill, speed, maneuverability, and internal lines to defeat his French, Austrian and Russian adversaries. Frederick did, however, recognize the effect partisans could have on the costs of war, which he gained while fighting Austria. For Austria, Croatian partisans served as skirmishers and harassed enemy lines of supply and communication. The disproportionate effect they had during Prussia's two wars against Austria led Frederick to devise his maxims for fighting an adversary more than twice one's own strength:

1. Wage partisan warfare: change the post whenever necessary.

2. Do not detach any unit from your troops because you will be beaten in detail. Act only with your entire army.

3. If you can throw your army against the enemy's communications without risking your own magazines, do so.

4. Activity and vigilance must be on the watch day and night at the door of your tent.

5. Give more thought to your rear than to your front, in order to avoid being enveloped.

6. Reflect incessantly on devising new ways and means of supporting yourself. Change your method to deceive the enemy. You will often be forced to wage a war of appearances.

7. Defeat and destroy the enemy in detail if it is at all possible, but do not commit to pitched battle, because your weakness will make you succumb. With time—that is all that can be expected of the most skillful general.

8. Do not retreat to places where you can be surrounded: remember Poltava without forgetting Stade.

Frederick, often outnumbered two to one, violated his maxims regularly. He lost as many battles as he won, yet he successfully waged war against the three most powerful continental powers (France, Austria and Russia) and expanded the size of Prussian territory while building an army that became the envy of Europe. Many reasons may explain Frederick's failure to adhere to the maxims he estab-

lished.[54] What remains clear is that the concept of asymmetry in conflict did not perish during the era of linear warfare.

Jacque Antoine Hippolyte, Comte de Guibert, was a contemporary of Frederick who left a lasting impression on Western warfare. In his *Essai generale de tactique* (1772), Guibert suggests that warfare is an action of the unified forces of the state, rather than the army alone.[55] In order to sustain war waged by the state, Guibert saw conscription as the sole method of gaining the necessary soldiers. The expense of Guibert's reforms called on an already overextended treasury to feed, clothe and arm an army larger than ever seen in Europe. Thus, he suggests "war should feed war." His final reform called for creating autonomous military units each with all the necessary men and equipment to wage war. Rather than moving as one large mass, as armies of the day were expected to do, each self-sufficient unit was capable of feeding itself and fighting.

Guibert, much like his Prussian contemporary Adam Heinrich Dietrich von Bulow, saw war as an activity of the state. Where monarchs once waged war with private armies funded with the revenue from their estates and the funds granted by the nobility, the taxing authority of the state vastly increased the available funds for warfare. Guibert and Bulow saw the increasing scope of war and the role of state governments in waging war. In *Geist des neuern kriegssystems* (1799), Bulow prophetically declares that states will wage war to expand their perceived territorial boundaries.

Neither Guibert nor Bulow saw war as an activity of disaffected groups within the state as it has become in the era of asymmetry. The concept of a challenger rising to contest the state was inconceivable. Thus, both men expected war to continue moving into the sphere of the state with larger states overwhelming their smaller neighbors by sheer might.[56]

The Comte de Guibert and Baron von Bulow served their respective nations as military commanders achieving distinguished careers. Neither, however, is considered among history's great captains. Their contemporary, Generalissimo Aleksandr Vasilievich Suvorov, achieved what only Alexander the Great had before him. In a career lasting more than five decades and more than two dozen major battles, Suvorov never suffered defeat.[57] At a time when the Russian military was mired in tactics of an age long sense passed, Suvorov, as a young major, began instituting reforms as commander of the Suzdal regiment, which later ensured victory in all of his many battles against the Poles, Turks and French.

Eighteenth-century Russian tradition expected the nobility to serve in either the military or bureaucracy. At birth, many Russian noblemen were enrolled in the Russian army, waiting until they were teenagers to begin their service. The advantage of enrollment at birth was rank. Often, boys not old enough to marry

entered their regiments as captains and majors having earned rank and seniority while they were children. Suvorov, however, took a different path and was not enrolled in the army until he was a teen, which left him to begin his service as a private. He quickly showed his abilities in battle winning respect and promotion. Suvorov also saw the cronyism of the Russian army and the costs the Russian soldier bore for having an incompetent officer corp.

After many years of service Suvorov was promoted to major and given com mand of the Suzdal Regiment, which he soon began to transform into the Russian army's best fighting unit. Where most Russian soldiers were trained in elaborate parade marches, Suvorov spent countless hours leading his men on long and wearying marches. He improved the marksmanship of his men and trained them using simulated combat. Suvorov rationalized the harsh punishment of soldiers and improved their food and clothing. Rather than pocketing the funds the Tsar sent for the support of the regiment, as was the practice, Suvorov spent it on improving the lives and skill of his men.[58] When Suvorov's men finally faced an adversary in Poland, they arrived five weeks early and repeatedly defeated larger Polish forces, fighting on their home soil.

From 1768-1773 Suvorov spent much of his time fighting Polish rebels who struck unexpectedly and then quickly dispersed. Spending his time in Poland hunting the famed Polish nationalist, Francis Pulawski, Suvorov developed tactical insights which he later used to defeat the numerically superior forces of the Turks and French.[59] For Suvorov, skill, discipline, speed, mobility, secrecy of action, surprise, and morale were indispensable components of victory. Often accused of fighting without tactics, Suvorov never failed to adapt to the conditions and adversary he faced. Lacking artillery, siege equipment, cavalry, or men never proved problematic because the great commander never failed to adapt to the current set of circumstances. This willingness to change led Suvorov to defeat Polish, Turkish and French adversaries who each fought in a very different manner.

Little known in the West, Aleksandr Suvorov's *Science of Victory* served as an operational, strategic and tactical manual for the Russian army during the life of the Generalissimo.[60] Although it quickly fell out of favor with those who served under and came after him, Suvorov's treatise is among the few works written during the era of linear warfare which proves useful in the current era of asymmetry. His principles of discipline, skill, speed and mobility are similar to those of Vegetius. Secrecy, surprise and morale played a major role in victory, which are also of great importance in the writing of Sun-tzu and Vegetius. Among the three theorists, Suvorov alone applied his theory to actual warfare.

With the death of Aleksandr Suvorov on May 18, 1800, there were no great captains left to challenge the growing success of Napoleon Bonaparte. The "Little Corporal" was in France when his subordinates were defeated by Suvorov at Cassano, Trebbia and Novi. In lamenting the fact that he never faced Suvorov, Bonaparte marked the passing of the one man capable of defeating him in battle.[61] Much like Suvorov, Bonaparte was a prolific writer of correspondence, law, orders, and other articles. From his writing it is possible to understand Bonaparte's thoughts on asymmetry in warfare.

In order to understand Napoleon Bonaparte, context is needed. Bonaparte, perhaps more than any commander before or since, with the exception of General George S. Patton, read and understood the treatises, histories and memoirs of great captains such as Alexander, Hannibal and Caesar. The influence of the past led Bonaparte, early in his career, to place preeminence in warfare on the abilities of a commander. Victory, thought Bonaparte, can be won in any battle with an exceptional captain.[62] Throughout his campaigns, Bonaparte rarely maintained an army equal in size to that of his adversaries. Consistently outnumbered, the French captain relied on the superior fighting quality and *élan of La Grande Armee* which could march faster, fight harder, and strike with greater secrecy than any army of the day. Warfare, for Bonaparte, was as the Comte de Guibert predicted. The full might of the French state waged war against the monarchies of Europe.

Once crowned Napoleon I, the Emperor sought to bend the might of France to his will. According to Napoleon, "The art of war is a simple art and everything depends upon execution: there is nothing vague, everything is common sense, and nothing about it is ideological. The art of war consists, with an inferior army, of always having more forces than your enemy at the point where you attack, or at the point which is attacked; but this art cannot be learned either from books or from practice. It is feeling of command which properly constitutes the genius of war."[63] Napoleon clearly believed, above all, that genius, or the lack of, won and lost battles. He also makes a point Carl von Clausewitz gains great fame for in the decades following the end of the Napoleonic wars: superior force at the decisive point of battle. Traditionally considered a maxim of conventional conflict, it also plays a role in the asymmetric conflicts of the 21st century. The ambush is little more than combining surprise with superior force at the decisive point of attack. It is particularly important to follow Napoleon's maxim when in an inferior position since it is possible to overwhelm an adversary bit by bit.

While Napoleon fought what may be considered wars devoid of an asymmetric element, he continually relied on tactics relevant to the modern asymmetric actor. Similar to the writers discussed thus far, Napoleon placed great value in

discipline, intelligence, secrecy, deception, speed, mobility, and unity of command. Napoleon, speaking of discipline, states, "The success of an army and its well-being depend essentially upon order and discipline, which will make us loved by the people who come to greet us and with whom we share enemies."[64] He says of intelligence, "Study the country: local knowledge is precious knowledge that sooner or later you will encounter again."[65]

When speaking on the subject of secrecy and deception Napoleon advises, "In war, intellect and judgment is the better part of reality. The art of the Great Captains has always been to…make their own forces appear to be very large to the enemy and to make the enemy view themselves as being inferior."[66] In correspondence with Marshall Massena, Napoleon adds, "You know very well…the importance of the most profound secrecy in such circumstances…You will employ all the demonstrations and appearances of movement that you judge convenient to deceive the enemy about the real strategic objective and persuade him that he will first be attacked by you."[67]

Of speed, Napoleon says, "Great operations require speed in movements and as much quickness in conception as in execution."[68] Mobility was also one of *La Grande Armee's* most important attributes since it was mobility that enabled Napoleon to defeat Allied armies piecemeal on multiple occasions. Finally, unity of command, which Napoleon considered a necessity, enabled the French to defeat the Allies who failed to unite their numerically superior forces under the command of one captain.[69]

In the aftermath of the Napoleonic wars, two of the greatest military theorists penned their influential works. Carl von Clausewitz, who served as chief of staff to General Thielmann during the war, wrote the West's most widely read treatise while serving as director of the War College of Berlin. *Vom Krieg* (On War), published in 1832 by his wife after Clausewitz's premature death, has served as a fundamental text for young officers from the United States to Russia for more than a century. A contemporary of this Prussian theorist, Baron Antoine Henri de Jomini served as chief of staff to Marshall Ney, and, like Clausewitz, entered the service of the Tsar during Napoleon's invasion of Russia. Jomini went on to organize the Russian staff college and continued in the service of the Tsar until his retirement in 1829. It was during his retirement that Jomini wrote prolifically. He is perhaps best known for *Précis de l'art de la guerre* (The Art of War) (1836), which is, unquestionably, the greatest treatise on linear-geometric warfare ever written.

Although *On War* appeared four years before *The Art of War*, it is to the latter that I now turn. Jomini was perhaps the 19th century's greatest student and rationalist of linear warfare. Beginning with his early writings, Jomini set out to

establish a set of universal principles of war. In his effort to make a "scientific" study of warfare, Jomini developed concepts such as "theatre of operations" and "zone of operation" as well as others.[70] Jomini's efforts led to a preoccupation with strategy as he sought to develop a set of prescriptive rules for the conduct of war.[71] Ultimately, Jomini would conclude that strategy is the key to warfare and is, in fact, governed by universal principles. The key element in war, said Jomini, is to have the greater mass at the decisive point of battle.[72] Jomini was not alone in arriving at this decision. Frederick the Great, Napoleon and Clausewitz had all seen the utility of such action. Strategy, according to Jomini embraced the following points:

1. The selection of the theatre of war, and the discussion of the combinations of which it admits.

2. The determination of the decisive points in these combinations, and the most favorable direction of operations.

3. The selection and establishment of the fixed base and of the zones of operation.

4. The selection of the objective points, whether offensive or defensive.

5. The strategic fronts, lines of defense, and fronts of operations.

6. The choice of lines of operations leading to the objective point or strategic front.

7. For a given operation, the best strategic line, and the different maneuvers necessary to embrace all possible cases.

8. The eventual base of operations and the strategic reserves.

9. The marches of armies considered as maneuvers.

10. The relation between the position of depots and the marches of the army.

11. Fortresses regarded as strategic means, as a refuge for an army, as an obstacle to its progress: the sieges to be made and to be covered.

12. Points for entrenched camps, *tets de pont*, etc.,…

13. The diversions to be made and the large detachments necessary.[73]

Attempting to apply the work of Jomini to asymmetric conflict is precarious. Jomini was a patron of linear warfare and concerned with the combat of his day, which consisted of national armies applying linear tactics to create the greatest volley of fire in a given area. Little was he concerned with partisan warfare, despite having served as a senior staff officer under Marshall Ney and Napoleon, who both spent a great deal of energy dealing with the morass that developed in the Peninsular War (1808-1814).[74] In developing a universal set of principles for war, Jomini saw war much like a game of chess with each piece known in advance and placed on the board so that its movements can be predicted well ahead of the next move.

Although it was never the intent of Jomini to develop concepts applicable to asymmetric conflict, *The Art of War* offers some useful advice for the asymmetric actor. Whether a conventional military force or a terrorist network, Article XIII concerning military institutions offers twelve essential conditions for making a perfect army:

1. To have a good recruiting system;

2. A good organization;

3. A well-organized system of national reserves;

4. Good instruction of officers and men in drill and internal duties as well as those of campaign;

5. A strict but not humiliating discipline, and a spirit of subordination and punctuality, based on conviction rather than on the formalities of the service;

6. A well digested system of rewards, suitable to excite emulation;

7. The special arms of engineering and artillery to be well instructed;

8. An armament superior, if possible, to that of the enemy, both as to the defensive and offensive arms;

9. A general staff capable of applying these elements, and having an organization calculated to advance the theoretical and practical education of its officers;

10. A good system for the commissariat, hospitals, and of general administration;

11. A good system of assignment to command, and of directing the principle operations of war;

12. Exciting and keeping alive the military spirit of the people.[75]

Each of these conditions is present to a greater or lesser degree in all combat organizations whether conventional or asymmetric. They are of special importance for asymmetric actors who often exist and operate somewhere between legitimacy and illegitimacy, state sponsored and illegal.

Jomini later enumerates ten essential bases for military policy of a wise government. Few have direct relevance; numbers seven and nine, however, offer prudent council to asymmetric and conventional actors alike. Number seven urges, "Nothing should be neglected to acquire knowledge of the geography and the military statistics of other states, so as to know their material and moral capacity for attack and defense, as well as the strategic advantages of the two parties."[76] The need for accurate intelligence and an understanding of one's adversary is common sense but has often led to the defeat of a power that underestimates or misjudges its enemy. The need for intelligence is of the greatest importance for the adversary of an asymmetric actor because it is his desire to operate unnoticed.

In essential base number nine, Jomini warns, "The system of operations ought to be determined by the object of the war, the kind of forces of the enemy, the nature and resources of the country, the character of the nations and their chiefs, whether of the army or of the state. In fine, it should be based upon the moral and material of attack or defense which the enemy may be able to bring into action; and it ought to take into consideration the probable alliances that may obtain in favor of or against either of the parties during the war."[77] Had Osama bin Laden followed Jomini's advice, he certainly would have judged President Bush to be a man willing to use force unlike President Clinton. In misjudging the character of President Bush, bin Laden also misjudged the character of the American people and the force it could bring to bear on Taliban and al Qaeda forces in Afghanistan. In a similar manner, Saddam Hussein incorrectly judged the President despite the War in Afghanistan (2001-2003) and, conversely, American leaders underestimated the strength of the insurgency that formed in the aftermath of the invasion of Iraq.

In his discussion of decisive points, Jomini also develops what he calls "political objective points" which are determined by their political, rather than strategic importance, and play an influential role in the considerations of adversaries.[78] Jomini's development of political objective points is, in part, derived from his reading of Clausewitz, who placed great importance on the relationship between political and military factors. And, although Jomini's intent was to address the

importance of political objectives in conventional conflict, for the 21st century asymmetric actor political objective points are the primary target when waging wars of asymmetry. Al Qaeda, Hamas, Hezbollah and other organizations waging war against the United States and Israel, for example, concentrate strikes against political targets rather than those of military significance. Rocket propelled grenade (RPG) attacks into Baghdad's green zone, attacks on police stations and the kidnapping and beheading of civilians in Iraq also serves to strike at political objective points.

This look at Jomini gives only limited attention to one of the most influential military theorists in Western history. The continuing, and often unrecognized, impact of Jomini within the American military is slowly beginning to decline as the United States faces a future moving a distinctly different direction than envisioned by the 19th-century Swiss strategist. And, although limited in the scope of application, Jomini still offers valuable insight into asymmetric warfare. As I now turn to the work of Clausewitz, the West's most influential military theorist, it is worth noting that it was Jomini, not Clausewitz who, for a time, reigned as the most widely read and admired military theorist in North America and Europe.

Originally read by only a limited number of European officers, *On War* rose to prominence with the rapid defeat of France in the Franco-Prussian War (1870-1871). In the war's aftermath, Helmuth Graf von Moltke, Chief of the Prussian General Staff, remarked of the influence *On War* played in the development of his thinking, setting off a wave of interest in the work of Clausewitz.

Unlike his contemporary Jomini, Clausewitz viewed war as an elemental act of violence, which negates social constraints and makes war the arbiter of moral and social norms.[79] Rather than looking for timeless principles of warfare, which Clausewitz believed did not exist, the Prussian sought to understand the nature of war. Thus, Clausewitz set himself apart from Bulow and Jomini by emphasizing the human elements of war: chance, friction, genius, will, and others.[80] For the Prussian, "War is nothing but a duel on a larger scale. Countless duels go to make up war, but a picture of it as a whole can be formed by imagining a pair of wrestlers. Each tries through physical force to compel the other to do his will; his *immediate* aim is to *throw* his opponent in order to make him incapable of further resistance."[81]

Clausewitz's concentration on the human elements of war makes *On War* timelessly relevant to asymmetric conflict. In addition, Clausewitz understood better than his contemporaries the impact of partisan war on conventional armies.[82] While serving as a deputy to Prince August at the battle of Auerstedt, Clausewitz ordered one-third of his men to fight as skirmishers opposing the flexibility of the French. After Prussia's defeat, Clausewitz, in violation of the armistice agreement

between France and Prussia, participated in the raising of the home guards in order that they might fight as partisans against future French invasion. When he later served as the director of General Scharnhorst's office in Berlin, Clausewitz lectured on partisan warfare.[83] In *On War* Clausewitz dedicates a chapter to the subject, making him one of the few theorists of his time to give active attention to asymmetric conflict.

Clausewitz is perhaps best known for saying, "War is merely the continuation of policy by other means." In viewing war as a political act, Clausewitz speaks more directly to the many attributes that make asymmetric conflict such a difficult task for states who find themselves embroiled in them. Although often credited with advocating total war, Clausewitz understood well that war is directed by the political objectives for which it is undertaken. Thus, Clausewitz is far more flexible in his conception of war than he is often credited.[84]

Clausewitz dedicates chapter twenty-six of Book Six to "The People in Arms." Here, the Prussian treats insurrection as another means of war, which he considers, "an outgrowth of the way in which the conventional barriers have been swept away in our lifetime by the elemental violence of war."[85] Clausewitz begins his discussion by enumerating five conditions under which partisan warfare can be effective:

1. The war must be fought in the interior of the country.

2. It must be decided by a single stroke.[86]

3. The theatre of operations must be fairly large.

4. The national character must be suited to that type of war.

5. The country must be rough and inaccessible, because of mountains, or forests, marshes, or the local methods of cultivation.[87]

In effect, Clausewitz details similar points to those made by later insurgents, recognizing the key attributes that enable insurgencies to develop, sustain themselves and succeed. Clausewitz explains the significance of geography, noting that the greater the degree of difficulty terrain presents, the greater will be the viability of partisan units.[88] He then moves to the deployment of partisans. Clausewitz, illustrating a well-considered understanding of the asymmetry of partisan warfare advises, "Militia and bands of armed civilians cannot and should not be employed against the main enemy force—or indeed against any sizeable force. They are not supposed to pulverize the core but to nibble at the shell and around the edges."[89] Clausewitz adds, "A general uprising, as we see it, should be

nebulous and elusive; the resistance should never materialize as a concrete body, otherwise the enemy can direct sufficient force at its core, crush it, and take many prisoners. When that happens, the people will lose heart and, believing the issue has been decided and further efforts would be useless, drop their weapons."[90]

Vice Admiral Arthur K. Cebrowski underscores Clausewitz's point by arguing that mass is insurance against the fog of war, which is often an important attribute for the asymmetric actor who depends on the uncertainty created by the tactics he employs for the provision of his safety and the success of his mission.[91] Rear Admiral John G. Morgan further elaborates on the significance of mass in war. Acknowledging the asymmetry of modern warfare, Rear Admiral Morgan suggests that Iraqi soldiers must have an adversary to whom they can surrender.[92] In addition, efforts such as Operation Anaconda (2003) and operations to clear Fallujah (2004) are dependent upon mass to successfully encircle and capture insurgents. Just as conventional force in an asymmetric conflict seeks to create mass at the decisive point, partisans and insurgents, must, as Clausewitz advises, remain dispersed.[93]

Clausewitz continues his discussion by further elaborating the ultimate necessity for partisan forces to employ conventional tactics to defeat an enemy. He adds, "On the other hand, there must be some concentration at certain points: the fog must thicken and form a dark and menacing cloud out of which a bolt of lightening may strike at any time. These points of concentration will, as we have said, lie mainly on the flanks of the enemy's theatre of operations. That is where insurgents should build up larger units, better organized, with parties of regulars that will make them look like a proper army and enable them to tackle larger operations."[94] Clausewitz further discusses the effects of large unit tactics emphasizing the psychological effects of partisan attacks.

Anticipating the Chinese Communist's tactical failure in the Five Encirclements Campaign (1927-1934) and the success of the Long March (1934), the Prussian theorist warns partisans against turning to tactical defense for the preservation of geographic gains. Clausewitz explains the weakness of tactical defense stating, "Moreover, not much is lost if a body of insurgents is defeated and dispersed—that is what it is for. But it should not be allowed to go to pieces through too many men being killed, wounded or taken prisoner: such defeats will soon dampen its ardor."[95] Clausewitz's grasp of the role played by asymmetric actors is clear: they win by not losing. This point later plays a central role in the war waged by Mao and the Chinese Communists against the Kuomintang.

The advice of Clausewitz bears increased relevance in the current global environment where the overwhelming military supremacy of the United States leads to a doctrine which seeks to bring adversaries to battle. As Peter R. Moody and

Edward M. Collins point out, modern democracies view war as a distinct moral act which requires direct confrontation with the enemy. This leaves the United States and other Western democracies little room to wage protracted wars against an enemy which refuses to give battle.[96] Clausewitz perhaps falls short because he fails to elaborate the means by which conventional forces can overcome partisans. Conceivably, he saw no solution to partisan warfare if waged in the manner he describes.

Before his death, Clausewitz remarked that *On War* was incomplete and in need of revision because his thoughts on war had evolved since he began writing. The untimely death of Clausewitz prevented him from ever making the revisions he considered essential. Whether revisions would have offered clarification of his views on asymmetric conflict can never be known. His contributions to the Western understanding of partisan warfare are without question and among the first efforts in the modern era to understand what has come to dominate 21st century warfare. Later theorists of both East and West would restate the principles elaborated by Clausewitz, offering new terminology but much the same idea.

Alfred Thayer Mahan and Julian Corbett

Rear Admiral Alfred Thayer Mahan, USN, a veteran of the War Between the States (1861-1865) and the first president of the Naval War College remains one of history's most influential naval theorists. His first and greatest work, *The Influence of Sea Power upon History, 1660-1783* (1890) is widely regarded as the single most influential treatise on naval strategy and tactics ever written.[97] Mahan, a prolific writer and student of Jomini, applies the linear concepts of the Swiss strategist to naval combat suggesting that naval warfare, like its land counterpart, follows a set of timeless principles.[98] Primary among them is the need for great powers to maintain supremacy of the seas. In controlling the seas, great powers (Britain) are able to ensure the free flow of trade, which enriches a nation. Mahan gained his earliest insight from a reading of the history of the Second Punic War (218-201).[99] During that war, Carthage and Hannibal were restrained in their ability to effectively wage war against Rome because of Rome's dominance in the Mediterranean. Realizing the significant role sea power played in the ultimate defeat of Carthage, Mahan began his study of the influence of British sea power in the seventeenth and eighteenth centuries.

Taking up the central premise of Jomini, Mahan saw the key to winning naval supremacy as the concentration of (naval) force at the decisive point of battle. Thus, Mahan was an advocate of major naval engagements which either led to total defeat or victory. Rather than viewing great power navies as supporting services, Mahan saw in them the key to economic, military, and political domi-

nance.[100] Not only do they fight, but naval assets ensure the free flow of goods, destroy enemy trade and blockade enemy ports. They transport troops and deny transport to the enemy. Lastly, they keep open the lines of communication between colonial possessions and the metropole.[101]

Throughout his writings, Mahan remains focused on the great power rivalries of his day. The concept of asymmetry in naval combat is one Mahan showed little grasp of. British naval historian Julian Corbett, a younger contemporary of Mahan, differed greatly in his conception of the role of naval forces in warfare. Corbett's most influential work, *Some Principles of Maritime Strategy* (1911), directly challenges Mahan's conception of the navy's role in warfare.[102] Unlike Mahan, Corbett viewed the navy as a service with the primary role of supporting land warfare. Where Mahan and the British Admiralty believed that the Royal Navy should seek the decisive battle, Corbett proposed a more limited role for naval elements. Much as Jomini and Clausewitz were advocates of concentrating force on the decisive point in battle, concentration remained a key element of naval combat in the early 20th century.[103]

Corbett, however, regards concentration as a poor strategy for maintaining command of the sea. Three reasons explain why. First, when naval forces are concentrated an adversary may more easily refuse battle by flight. Second, dispersing one's forces creates an element of shapelessness and surprise, which cannot be achieved by concentration. Third, when concentration is a principle of naval combat, flexibility of action is lost.[104]

Limited conflict, according to Corbett, was and remains the dominant form of warfare. Thus, it is imperative to fight on one's own terms rather than those of the enemy. Additionally, limited conflicts should be fought in such a way that the greatest gains are made at the lowest costs. This translates into support for the strategic offensive, which relies on taking offensive action when risks are low and gains high. The strategic offensive serves as a force multiplier, greatly increasing the effective strength of a state's naval forces.[105]

The strategic and tactical innovations of Mahan and Corbett, while often diametrically opposed, include no conception of naval warfare as an element of asymmetric conflict. Mahan's fixation with total warfare left little room for the small scale asymmetric conflicts of the 21st century. Although Corbett's suggestions of surprise, flexibility and shapelessness are significant attributes of command of the sea, he fails to anticipate the use of naval assets by partisans, guerrillas and terrorists. Thus, neither man offers insights relevant to the study of asymmetric conflict.

Considering the time in which Mahan and Corbett wrote, it would have been difficult for either to anticipate events such as the hijacking of the cruise ship

Achille Lauro in October 1985 or the bombing of the USS Cole in October 2000. For both theorists, naval combat belonged to the nation-state alone. Thus, naval theory has great potential for innovation as asymmetric actors seek new ways to minimize the advantage naval forces provide to the United States and major powers.

Theory after the Great War (Lawrence, Liddell-Hart and Fuller)

Western military theory experienced its next major development in the 1920s as a response to the heavy casualties incurred during the trench warfare of the Great War. Throughout Western Europe an entire generation of men was lost in the pyrrhic charges across no man's land where machine-gun fire and artillery bloodied the landscape with the corpses of more than five million men. The horrific scenes of the Somme and other major battles where hundreds of thousands of men lost their lives in a single day left an indelible impact on the strategists who would spend the post-war decades considering ways to prevent such catastrophic losses in the future.

There was, however, one dramatic exception from the trench warfare of the Great War. In the sparsely populated desert of Arabia, the Ottoman Turks attempted to maintain control of Medina and smaller towns and villages and the lone rail line linking these remote areas to Palestine, Syria and the rest of the Ottoman Empire. As an ally of Germany, the Ottomans found themselves in conflict with the British, whose possession of Egypt and the Suez Canal was threatened by the proximity of the Ottomans and their German allies.[106]

As one of the few British officers fluent in Arabic and familiar with the culture and customs of the Arabs, Captain Thomas Edward Lawrence, or Lawrence of Arabia as he is better known, left his post in Egypt to serve as British Royal Army liaison to Sherif Hussein in Mecca. The British sought to encourage the Sherif to lead a revolt against the Arab's Ottoman overlords, drawing Turks from the fight in Europe and keeping the Ottomans occupied in the vast expanse of Arabia. In return, the British offered technical assistance and material support. Although serving under superior officers, Captain Lawrence quickly became the leader of British cooperation with the Arabs. He also soon found himself commanding Arab irregulars and serving with Emir Feisal as one of the "Arab Revolt's" commanders.[107]

As an archeologist by profession, Lawrence had little military training and even less experience when he began leading what would become one of the most significant asymmetric conflicts in history. Although Lawrence was without the training of a soldier, he was widely read in military theory and understood, conceptually, the strategic and tactical options available to him. The lack of military

training proved an asset during the Arab Revolt because Captain Lawrence was unconstrained by the tactics of his day.

Popularized in his account of the Arab Revolt, *The Seven Pillars of Wisdom: A Triumph* (1926), T. E. Lawrence provides the modern asymmetric actor strategic and tactical advice worthy of note.[108] Significant among his many contributions, Captain Lawrence understood the skill, material condition and mindset of the Bedouins who comprised the irregular force he led against the Ottomans. As important, Lawrence also understood the Ottoman soldier recognizing that they were often poorly trained, unmotivated and fatalistic.[109] With this in mind, it was then possible for Captain Lawrence to develop a strategy, which utilized the strengths of his allies and attacked the weaknesses of the enemy.[110] The untrained and fiercely independent tribesmen of the desert were undisciplined and accustomed to receiving booty as a spoil of war. This left Lawrence little choice but to wage a guerrilla war, which he did with great success and little loss of life.[111]

Captain Lawrence explains the beginning of the Arab Revolt stating, "So I began with three propositions. Firstly, that irregulars would not attack places, and so remained incapable of forcing a decision. Secondly, that they were unable to defend a line or point as they were to attack it. Thirdly, that their virtue lay in depth not in face."[112] He further explains the strategy of the Arab Revolt saying, "The Arab war was geographical, and the Turkish Army an accident. Our aim was to seek the enemy's weakest material link and bear only on that till time made their whole length fail…Consequently we must extend our front to its maximum, to impose on the Turks the longest possible passive defense, since that was, materially, their most costly form of war."[113]

Lawrence and his Arab allies relied on flexibility, accurate intelligence, geography, mobility, speed and surprise to strike at Ottoman outposts and rail lines.[114] Fighting on their native soil, a limited number of tribesmen held down large numbers of Ottoman troops, rarely failing to fight on the terms set by Lawrence and Feisel. The hit and run tactics of the Arabs left the Ottomans trapped in their garrisons, too weak and afraid to make a concerted attempt to clear Arabia of irregulars. As the war progressed, Lawrence's strategy made it possible for Arab forces with only limited support to push the Ottomans out of Arabia where they were eventually defeated in Palestine and Syria by a combined Anglo-Arab force.

Written in the decade after the Great War, *The Seven Pillars of Wisdom: A Triumph* has been called the first coherent theory of guerrilla warfare.[115] As much as this may be true, Lawrence's great skill was not in developing new strategic concepts but in applying what he knew from his study of strategy to the situation in which he found himself. Rather than attempting to force the Arab Revolt to fit a European model, Captain Lawrence became the West's most distinguished

asymmetric actor by proving to be flexible in thought and action. This flexibility is perhaps T. E. Lawrence's greatest contribution to the study of asymmetric conflict.

For men such as B. H. Liddell-Hart and J. F. C. Fuller, who experienced the carnage of trench warfare, the post-war years were devoted to developing a new way of warfare, absent the frontal charges which left so many young men dead on the fields of France. Working in the early 1920s, Liddell-Hart and Fuller developed independent, yet complimentary, approaches to warfare, which played a major role in General Heinz Guderian's development of the Blitzkrieg and General Erwin Rommel's mechanized warfare.

Working with his younger contemporary, Major General Fuller moved within the British Royal Army to encourage the development of an all mechanized army consistent with his Plan 1919.[116] Liddell-Hart, twenty years Fuller's junior, gained prominence with his publication of *Decisive Wars of History* (1929), which was later revised to become the 20th century's most prolific strategic treatise, *Strategy* (1954).[117]

Liddell-Hart develops what he calls the "indirect approach," which was a direct challenge to the warfare of his day, and based on his view that military and political leaders had lost sight of the objective of war.[118] Rather than making frontal charges against an entrenched enemy, the indirect approach calls for attacking the enemy's lines of supply, communication and rear.[119] For Liddell-Hart, attacking an adversary where he least expects it and where one's loss is minimized is of the greatest importance. This is not simply to suggest that Liddell-Hart advocates attacking the enemy's front when he least expects it, rather he seeks to prevent such attacks by first destroying those assets which make war possible, while also creating turmoil and dissention. In the case studies utilized to illustrate the indirect approach, Liddell-Hart offers a number of cases from the earliest times to the present. Two of note are General William T. Sherman's March to the Sea and T. E. Lawrence's leadership in the Arab Revolt. While Sherman led a conventional army through the heart of the Confederacy, burning crops, destroying homes and tearing up rail lines, Lawrence led irregular Bedouins on a campaign of hit-and-run attacks against rail lines and isolated garrisons. For Liddell-Hart the indirect approach applies to conventional and unconventional conflict alike.

The former infantry captain develops eight maxims as part of the indirect approach, which he considers the "concentrated essence of strategy and tactics":

Positive

1. Adjust your end to your means.

2. Keep your object always in mind.

3. Choose the line (or course) of least expectation.

4. Exploit the line of least resistance.

5. Take a line of operation which offers alternative objectives.

6. Ensure that both plans and dispositions are flexible—adaptable to circumstances.

Negative

1. Do not throw your weight into a stroke whilst your opponent is on guard—whilst he is well placed to parry or evade it.

2. Do not renew an attack along the same line (or in the same form) after it has once failed.[120]

He adds, "The essential truth underlying these maxims is that, for success, two major problems must be solved — *dislocation* and *exploitation*. One precedes and one follows the actual blow — which in comparison is a simple act. You cannot hit the enemy with effect unless you have first created the opportunity; you cannot make the effect decisive unless you exploit the second opportunity that comes before he can recover."[121]

Dislocation and exploitation are of greater significance to the asymmetric actor because his inferiority *requires* him to rely on the elements of war dislocation and exploitation seeks to utilize. Where a conventional force can take advantage of its superior numbers and technology, the asymmetric actor must rely on alternative means.[122] In Iraq, for example, al Zarqawi and Saddam loyalists are using car bombs, Improvised Explosive Devices (IED) and other tactical devices to first dislocate American forces, Iraqi police or Interior Ministry troops in an initial explosion, which is then followed by a second attack carried out by insurgents exploiting the confusion and destruction caused by the initial attack. On a small scale, these types of attacks are illustrative of Liddell-Hart's indirect approach.

Discussing guerrilla warfare, Liddell-Hart makes two additional points of importance. He suggests that there are three keys to guerrilla warfare: distraction,

disturbance and demoralization.[123] Each affects the physical and psychological elements of conflict, which serves to magnify the effect of the indirect approach. In maximizing the effect of these elements, the probability of defeating an adversary through attacks on lines of communication, supply, and in the rear are increased. Liddell-Hart underscores this point adding, "A guerrilla movement that puts safety first will soon wither. Its strategy must always aim to produce the enemy's increasing overstretch, physical and moral."[124]

20th Century Eastern Warfare (Mao, Giap and Guevara)

Mao Zedong, more than his predecessor Sun-tzu, is the East's most influential military theorist. As a military commander and leader of the Chinese communists from the Chinese Communist Party's (CCP) earliest days, Mao developed the strategy and tactics responsible for the 1949 victory over the Kuomintang (KMT) in the Chinese Civil War (1925-1949). Developing his first major treatise, *On Guerrilla Warfare* (1934), early in the civil war, Mao went on to lead the Fourth Route Army on the Long March (1934-1935), which saw Mao and 40,000 of his comrades march more than 6,000 miles while being chased and harassed by KMT forces.[125]

Mao suggests guerrilla warfare develops in three phases. In phase I, guerrilla movements organize, consolidate, and concentrate on preserving their existence.[126] This requires that guerrillas win the support of the population, which will play a pivotal role in their success. Without the protection and assistance of the populace, insurgents, guerrillas and asymmetric actors will not be victorious. The intelligence, material, food, and recruits provided by the people cannot be replaced.

When Vespasian and Titus instituted a scorched earth policy in Judea during the Jewish Revolt, rebels were forced from northern Judea because the population, which was either killed or forced to flee, could no longer provide assistance.[127] More recent instances offer similar results.[128] When a central government, colonial power or invading state depopulates the area in which guerrillas operate, the movement collapses. A population unwilling to support a guerrilla movement also causes collapse. The defeat of the *Sendero Luminoso* in Peru was largely due to the lack of assistance locals provided to guerrillas and the covert, and sometimes open, support given to government forces.[129]

In Afghanistan, the Taliban and al Qaeda were unpopular among a majority of Afghans who disliked the foreign presence of al Qaeda and viewed the Taliban negatively because of tribal loyalties and the Taliban's extreme views. When the United States proved to be very different from the Soviet and British invaders of the past, local tribal leaders quickly shifted support from the Taliban, instead

choosing the United States and its local allies. Iraq is proving to be a more difficult situation. While demonstrations against terrorist attacks show a lack of support for Saddam loyalists and al Zarqawi, the lengthier the American presence, the greater will be the decline in support for the United States among Iraqis.[130] Thus, popular support is limited for both sides of the current conflict in Iraq, making it difficult for either to win a clear victory.

Phase II calls for the progressive expansion of guerrilla forces. Here guerrillas begin expanding the territory within which they operate, increasing offensive operations and expanding the overall scope of their activity. It is in phase II that guerrillas begin steadily waging a war of attrition against enemy forces and material, attacking in what Mao calls "lightening raids."[131]

It is in moving to phase III that many guerrilla movements make a strategic error by transitioning to conventional operations in order to strike a deciding blow to weakened government forces. As Mao points out, guerrilla movements, in order to ultimately succeed, must topple the national government, which requires conventional operations. Moving to phase III too early can lead to catastrophic defeat such as occurred during the Tet Offensive when American and South Vietnamese forces wiped out the Viet Cong, who mistakenly believed the time was right to launch a final strike against South Vietnam. It took more than four years to recover from the defeat of the Viet Cong and North Vietnamese. Mao, after near defeat in the Five Encirclements Campaign (1928-1934), proved a more adept commander than General Vo Nguyen Giap, military commander of the North Vietnamese Army (NVA), who repeatedly moved to phase III too early against a superior adversary.[132]

Mao relied on "…imaginative leadership, distraction, surprise and mobility to create a victorious situation before battle is joined."[133] He further explains guerrilla warfare as:

1. Arousing and organizing the people.
2. Achieving internal unification politically.
3. Establishing bases.
4. Equipping forces.
5. Recovering national strength.
6. Destroying the enemy's national strength.
7. Regaining lost territories.[134]

Mao then asks the question, “What is guerrilla strategy? Guerrilla strategy must be based primarily on alertness, mobility and attack.”[135] This does not suggest Mao favors decisive battle. He does not. Much as Liddell-Hart, Lawrence, and Clausewitz before him, Mao warns guerrillas against seeking the decisive battle adding, “There is in guerrilla warfare no such thing as a decisive battle; there is nothing to the fixed, passive defense that characterizes orthodox war.”[136]

A strategy of “death by a thousand cuts” is akin to the strategic thought of Mao and is similar to the strategy utilized by asymmetric actors today. Where the CCP understood that the ultimate goal of the war against the KMT was the destruction of the nationalist government and its replacement by communism, the same is not true for many 21st-century asymmetric actors. Instead, they seek to force the withdrawal of a foreign military power’s occupying force. For the asymmetric actor this means phase III is never entered, which sets conflicts of asymmetry apart from the mobile guerrilla warfare of the Chinese Civil War.

Where Mao makes his greatest contribution to military theory is in his discussion of the political elements of guerrilla warfare. Understanding the dominant role politics plays in war, Mao established a code of conduct for the Fourth Route Army, which required soldiers to treat peasants, with whom they interacted, with dignity and respect. In doing so, Mao sought to generate the support of the populace necessary for communist success. Areas controlled by communist forces also saw land lords punished for “exploitative” behavior, land rents reduced, public health improved, the introduction of local democracy and major re-education campaigns designed to introduce the peasantry to communist ideology.[137]

After the Japanese invasion of Manchuria and their expansion south, Generalissimo Chiang moved his Kuomintang (KMT) forces into central China, seeding the most productive areas of the country to the Japanese. Mao, however, suspended operations against the Nationalists and moved against the Japanese. This endeared the communists with large segments of the Chinese population because they alone challenged the Japanese invasion and occupation. For Mao, waging a guerrilla war against the Japanese was a calculated risk undertaken because of the political gains it might bring. Chiang’s unwillingness to confront the Japanese was a terrible miscalculation because it demoralized his troops and led to the evaporation of support for the KMT.[138]

Asymmetric conflicts are similar in their political aims. While seeking to attrite the enemy and force his withdrawal, asymmetric actors wage a public relations campaign to win the support of the populace while turning them against the external power. Asymmetric actors do, however, violate one of Mao’s fundamental rules: they target civilians with acts of terrorism. Recent public protests in Iraq underscore the negative political effect of such acts, which continue to

target civilians.[139] Chinese military theory takes an exceptionally negative view of terrorism because it, in fact, turns the mass against the military force utilizing it.[140] In those instances in the West where communist guerrilla movements were defeated in Bolivia (1967), Chile (1981), Peru (1992) and elsewhere, the use of terrorism against civilians led to the withdrawal of support among the populace. Understanding that guerrilla warfare is at its foundation political, Mao prohibited the use of terrorism.[141]

Mao's contemporary, Vo Nguyen Giap, military commander of the Viet Minh during the War of Liberation against the French (1945-1954) and commander of the People's Army of Vietnam (PAVN or NVA), wrote two significant treatises on guerrilla warfare which must not be overlooked. General Vo developed his strategic and tactical innovations under circumstances which more closely mirror those of 21st-century asymmetric conflict than Mao. It was Mao, however, whose writings served to stimulate the former high school teacher as he sought to defeat an experienced French commander in General Navarre.

It has been said that General William Westmoreland, Military Assistance Command, Vietnam (MACV) Commander, kept a copy of Vo's *People's War People's Army: The Viet Cong Insurrection Manual for Underdeveloped Countries* on his nightstand while MACV Commander, but never read it.[142] Had he done so, General Westmoreland would have understood the strategy employed by General Vo, which ultimately forced American withdrawal from Vietnam. In keeping with the work of Mao, Vo viewed guerrilla warfare as developing in three phases (consolidation, expansion and destruction). Vo, however, placed a greater emphasis on the political elements of guerrilla conflict. According to Vo, "The war of liberation of the Vietnamese people proves that, in the face of an enemy as powerful as he is cruel, victory is possible only by uniting the whole people within the bosom of a firm and wide national united front based on the worker-peasant alliance."[143] Where Mao limited the indoctrination of the Chinese peasant, Vo sought to thoroughly unify the political will of the Vietnamese people.

Placing added importance on the intellectual unification of the Vietnamese, Vo viewed "people's war" as developing in six initial stages:

1. Develop and consolidate the organizations for national salvation.

2. Expand the organizations to the cities, enterprises, mines and plantations.

3. Expand the organizations to the provinces where the revolutionary movement is still weak and to the minority areas.

4. Steel the Party members' spirit of determination and sacrifice.

5. Steel the party members so that they may have capacity and experience to enable them to lead and cope with the situation.

6. Form small guerrilla groups and soldiers' organizations.[144]

The jargon of communism often clouds the meaning of its authors, but it is clear that Vo places great importance on political elements early in the development of a guerrilla movement. In addition to placing great emphasis on the political aspects of war, General Vo emphasizes the dominance of propaganda over combat saying, "…political activities were more important than military activities, and fighting less important than propaganda…"[145]

Vo follows his discussion of politics and guerrilla warfare with a description of the war waged by the Viet Minh and the Democratic Republic of Vietnam (DRV). Of greatest relevance is his discussion of the mobilization of the economy, military and people for war. In essence, the People's War waged by the Vietnamese communists was a total war, waged for total ends (the overthrow of the Republic of Vietnam), by total means.[146] France and the United States, however, fought a limited war. For the French, the objective was the destruction of the Viet Minh, which they almost achieved, but for the limited means employed. The United States fought for the preservation of a non-communist South with limited resources.

As is often the case, the side waging a total war, in this case the Vietnamese communists, maintained a psychological advantage gained by viewing conflict as a life or death struggle. Asymmetric actors are similar in their perception of the conflict in which they are engaged, which provides a psychological advantage to the asymmetric actor as well.

In the years following the withdrawal of American forces and the defeat of the Republic of Vietnam by the North, General Vo explains his success in *How We Won the War*, which offers some additional insight into the successful guerrilla campaign.[147] Vo suggests that the Viet Cong and NVA were successful against American and Army of the Republic of Vietnam (ARVN) forces because they regularly seized opportunities to take the offensive, giving communist forces the momentum at the point of attack.[148] Speed also played a key role in the success of the North, which was combined with superior mass at the decisive point of attack to ultimately demoralize and annihilate ARVN forces.[149]

Throughout the three phases of the War in Vietnam, leading to the ultimate defeat of ARVN forces in the Ho Chi Minh Campaign of 1975, General Vo utilized the combined strength of what he called, "Revolutionary War."[150] This includes the regular army (NVA), regional forces (Viet Cong), militia and guerrillas. Prior

to the 1975 offensive and with the exception of the Tet Offensive (1968) and a second offensive in 1972, General Vo relied on the guerrilla capabilities of the Viet Cong and NVA. During the final offensive in 1975, the North was able to overwhelm the South from within (guerrillas) and without (conventional forces). And, while one of the largest and best equipped militaries in the world, ARVN quickly succumbed to the pressure of the unrelenting Northern onslaught.

Although an Argentine by birth, Che Guevara, the doctor-turned-Marxist guerrilla, viewed guerrilla warfare in a similar manner to his Asian counterparts. In his treatise on the subject, *Guerrilla Warfare*, Guevara emphasizes the importance of safe base areas, mobility, speed and the strategic attack.[151] He does, however, differ from Mao and Vo in one significant area, which he elaborated in three "fundamental lessons":

1. Popular force can win a war against the army.

2. It is not necessary to wait until all conditions for making revolution exist; the insurrection can create them.

3. In underdeveloped America the countryside is the basic area for armed fighting.[152]

Guevara differs with Mao and Vo in numbers one and two. It is there that the Latin American revolutionary minimizes the political and psychological attributes of warfare, which were so important to both Mao and Vo. Failing to cultivate the assistance and sympathy of the local population cost Guevara his life when a deserter from his guerrilla band informed the Bolivian army of his position. He was quickly captured after a short battle and executed in October 1967.

Guevara's failure to properly judge the political environment in Bolivia was a major miscalculation. His mistaken view that a small band of revolutionaries can spark a general revolution is one asymmetric actors are tempted to make. Efforts by Osama bin Laden to overthrow the Saudi royal family are one example. The current insurgency in Iraq is another. In both instances asymmetric actors initiated combat before first gaining the support of the populace and, in both cases, insurgents failed or are failing to achieve their objective.

Of greatest relevance to 21st-century asymmetric conflict is Guevara's discussion of guerrilla tactics. Two points are prophetic and speak directly to the current insurgency in Iraq. First, Guevara warns, "There is one point very much in controversy in opinions about terrorism. Many consider that its use, by provoking police oppression, hinders all more or less legal or semi-clandestine contact with the masses and makes impossible unification for actions that will be necessary

at a critical moment. This is correct, but it also happens that in a civil war the repression by the government power in certain towns is already so great that, in fact, every type of legal action is suppressed already, and any type of action of the masses that is not supported by arms is impossible."[153] He goes on to further warn guerrillas against the use of terrorism saying, "We sincerely believe that terrorism is of negative value, that it by no means produces the desired effects, that it can turn a people against a revolutionary movement, and that it can bring a loss of lives to its agents out of proportion to what it produces."[154] Insurgents in Iraq would be wise to heed Guevara's warning, given the increasing unpopularity of terrorist attacks.

Guevara's second point is one insurgents in Iraq are currently exploiting effectively. According to Guevara, "One of the weakest points of the enemy is transportation by road and railroad. It is virtually impossible to maintain yard by yard over a transport line, a road, or a rail yard. At any point a considerable amount of explosive charge can be planted that will make the road impassable; or by exploding it at the moment that a vehicle passes, a considerable loss of lives and material to the enemy is caused at the same time that the road is cut."[155] The current use of IEDs by insurgents in Iraq is an illustration of the effectiveness of roadside bombs. Had Guevara followed his own tactical advice more closely, rather than his ill-conceived strategic plan, he may have succeeded rather than lost his life.

Conclusion

Throughout human history man has devoted great effort to the understanding of one of humanity's more endearing institutions: war. These pages have examined a number of the most influential treatises on warfare and the thoughts and actions of some of history's great captains in an effort to determine if influential works of the past offer insight into 21st century asymmetric conflict. The emphasis has been on the strategic and tactical contributions of those authors examined and the application of specific innovations to the current conflicts in Afghanistan and Iraq.

In addition to the principle aims of this article, an underlying theme emerged. For many of the theorists examined, a common set of strategic and tactical elements play an important role in the thought of each writer. Elements such as mobility, speed, surprise and others frequently appear in the work examined, which spans more than two millennia of military thought. As the United States moves forward into the 21st century, American leaders, civilian and military, would be wise to look to the past when determining the face of the future. For as much as

technology and time have changed the face of warfare, history shows that many of the elements of conflict span the centuries and are as relevant today as they were more than two millennia ago.

Notes

1. Berndt Brehmer, "The Dynamic OODA Loop: Amalgamating Boyd's OODA Loop and the Cybernetic Approach to Command and Control," (Stockholm: Swedish National Defense College, 2004). (Osborne 1996)

2. Herodotus, *The Histories*, trans. George Rawlinson (New York: Alfred A. Knopf, 1997).

3. Thucydides, *History of the Peloponnesian War*, trans. Rex Warner (New York: Penguin Books, 1954).

4. Xenophon, *Anabasis*, trans. Carleton Brownson (Cambridge: Harvard University Press, 1998).

5. Arrian, *The Campaigns of Alexander*, trans. Aubrey de Selincourt (New York: Penguin Classics, 1958).

6. Polybius, *The Rise of the Roman Empire*, trans. Ian-Scott Kilvert (New York: Penguin Books, 1980).

7. Ibid. Livy, *The War with Hannibal*, trans. Aubrey De Selincourt (New York: Penguin Classics, 1972).

8. During the Second Punic War it was Hannibal who was often outnumbered by Roman forces, but still managed his greatest victories.

9. Livy, *The War with Hannibal*, 85.

10. Ibid., 101-03.

11. Ibid., 145-50.

12. Caesar, *The Conquest of Gaul* (New York: Penguin Books, 1983). Caesar, The Gallic Wars, trans. H. J. Edwards (Cambridge: Harvard University Press, 2000).

13. Caesar, The Civil Wars, trans. A. G. Peskett (Cambridge: Harvard University Press, 1984).

14. Flavius Josephus, *The Jewish War*, trans. G. A. Williamson (New York: Penguin Classics, 1984).

15. The final end of the revolt took place at the citadel of Masada where, in 73 A.D., the remnants of the rebellion flung themselves from the citadel walls hours before Legionnaires stormed the gates.

16. Martin Van Crevald, *The Art of War: War and Military Thought* (London: Cassell, 2002), 45.

17. Flavius Renatus Vegetius, *The Military Institutions of the Romans*, trans. John Clark (Westport, CT: Greenwood Press, 1985).

18. Ibid., Book 1, Page 1.

19. See J. F. C. Fuller, *Memoirs of an Unconventional Soldier* (London: Nicholson and Watson, 1936). Vegetius, *The Military Institutions of the Romans*, Book 3, Page 1.

20. Vegetius admonishes the Emperor saying, "But of all precautions the most important is to keep entirely secret which way or by what route the army is to march. For the security of an expedition depends on the concealment of all motions from the enemy." Vegetius, *The Military Institutions of the Romans*, Book 3, Page 4.

21. Ibid., Book 3, Page 8.

22. In Books One and Two, Vegetius suggests that the Legions regularly undertake training marches of twenty miles in half a summer day (five hours), as they had in ancient times. This was while carrying a sixty-pound pack and fully armed. During the Napoleonic wars, *La Grande Armee*, the speediest army in the world, covered 15-20 miles in a full day, making the Roman rate of march significantly faster.

23. Vegetius, *The Military Institutions of the Romans*, Book 3, Pages 8-9.

24. At the end of Book Three Vegetius offers a number of maxims one of which states, "It is much better to overcome the enemy by famine, surprise or terror than by general actions, for in the latter instance fortune has often a greater share of valor. Those designs are best which the enemy are entirely ignorant of till the moment of execution." Ibid., Book 3, Page 19-20.

25. Ibid., Book 3, Page 10.

26. In a maxim reminiscent of Sun-tzu, Vegetius says, "To distress the enemy more by famine than the sword is a mark of consummate skill." Ibid., Book 3, Page 21.

27. Ibid., Book 3, Page 10.

28. Niccolo Machiavelli, *The Art of War*, trans. Ellis Farneworth (Cambridge: Da Capo Press, 1965).

29. Ibid., 26.

30. Machiavelli, a former official of the Florentine Republic, was deeply concerned with the plight of Florence, which was little more than a pawn in the power politics of his day.

31. Peter Paret, ed., *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986), 26-40.

32. Steven Forde, "Varieties of Realism: Thucydides and Machiavelli," *The Journal of Politics* 54, no. 2 (1992).

33. Machiavelli, *The Art of War*, 141-44.

34. In Book Seven Machiavelli, like Sun-tzu and Vegetius before him, says, "If a general knows his own strength and that of the enemy perfectly, he can hardly miscarry." Ibid., 202-03.

35. General William T. Sherman, Commander of the Army of Tennessee, explained his March to the Sea by proclaiming that war is inherently a nasty affair, which should be made as terrible as possible so that those who wage it will do so less frequently. Victor Davis Hanson, *The Soul of Battle: From Ancient Times to the Present Day, How Three Great Liberators Vanquished Tyranny* (New York: NY: Anchor Books, 1999).

36. Walter Laqueur, ed., *Voices of Terror: Manifestos, Writings and Manuals of Al Qaeda, Hamas, and Other Terrorists from Around the World and Throughout the Ages* (New York: Reed Press, 2004), 413-14.

37. Sun-tzu, *The Art of War*, trans. Ralph D. Sawyer (New York: Barnes and Noble Books, 1994), 59.

38. *The Seven Military Classics of Ancient China*, trans. Ralph D. Sawyer (Boulder, CO: Westview Press, 1993).

39. First translated in the West by a French clergyman during the rise of Napoleon Bonaparte, *The Art of War* was read and admired by the Future Emperor and, later, by leaders of the Nazi regime.

40. Sun-tzu, *The Art of War*, 129.

41. Alistair Ian Johnston, in an analysis of Chinese conflict, beginning with China's first recorded warfare, finds that Chinese rulers seek the offensive when they possess superior military strength. When weaker, rulers turn to defense. And, when rulers see their position as exceptionally weak, adversaries are appeased with tribute and other concessions. Rarely, however, is Sun-tzu's advice utilized. Alastair Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton: Princeton University Press, 1998).

42. Sun-tzu, *The Art of War*, 129.

43. Ibid., 167.

44. Ibid., 168-71.

45. Douglas M. McCready, "Learning from Sun-Tzu," *Military Review*, no. May-June (2003): 86-87.

46. Sun-tzu, *The Art of War*, 179-82.

47. Ibid., 188.

48. Epaminondas's march through the Peloponnese, Sherman's March to the Sea, Rommel's North Africa campaign, Patton's drive to the Rhine and MacArthur's island-hopping campaign and Inchon invasion demonstrate the application of Sun-tzu's emphasis on ch'i and the strategic configuration of power. Hanson, *The Soul of Battle: From Ancient Times to the Present Day, How Three Great Liberators Vanquished Tyranny*. See also

Archer Jones, *The Art of War in the Western World* (Oxford: Oxford University Press, 1987). J. F. C. Fuller, *A Military History of the Western World: From the Earliest Times to the Battle of Lepanto* (Cambridge: Da Capo Press, 1987).

49. Sun-tzu, *The Art of War*, 245-46.

50. Henry Guerlac describes the development of military theory in the 17th century best when he says, "If we ask how these developments are reflected in the military literature of the sixteenth and seventeenth centuries, the answer is simple enough: the volume is, on average, greater than the quality. Antiquity was still the greater teacher in all that concerned the broadest aspects of military theory and the secrets of military genius." Henry Guerlac, "Vauban: The Impact of Science on War," in *Makers of Modern Strategy from Machiavelli to the Modern Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 71.

51. Frederick saw the Prussian army as an instrument of his own will, which must respond to commands with immediate action. Gerhard Ritter, *Frederick the Great: A Historical Profile*, trans. Peter Paret (Berkeley, CA: University of California Press, 1968).

52. Ian Westwell, *Warfare in the 18th Century* (Austin, TX: Raintree Steck-Vaughn, 1999). See also Jeremy Black, *Warfare in the 18th Century* (London: Cassell Company, 2002).

53. Frederick Hohenzollern, *Frederick the Great on the Art of War*, trans. Jay Luvaas (Cambridge: Da Capo Press, 1999), 334.

54. For Frederick, desertion was as a great a threat to his army as was the enemy. Thus, Frederick was loathe to turn loose soldiers to harass lines of communication and supply for fear his conscripts would desert. R. R. Palmer, "Frederick the Great, Guibert, Bulow: From Dynastic to National War," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986).

55. Guibert's conception of the unified state is later called grand strategy by B. H. Liddell-Hart. Jacques Hippolyte, *Stratégiques, Classiques De La Stratégie* (Paris: l'Hern, 1977).

56. Van Crevald, *The Art of War: War and Military Thought*, 90-99.

57. Philip Longworth, *The Art of Victory: The Life and Achievements of Generalissimo Suvorov* (London: Constable and Company, 1965).

58. Ibid., 35-40.

59. Unknown to many in the West, Generalissimo Suvorov was responsible for the capture of Francis Pulawski, Yemelyan Pugachev and Tadeusz Kosciuszko, hero of the American War of Independence and Polish patriot.

60. Bruce W. Menning, "Train Hard, Fight Easy: The Legacy of A. V. Suvorov and His 'Art of Victory,'" *Air University Review* November-December (1986).

61. Alan Schom, *Napoleon Bonaparte: A Life* (New York: Perennial, 1998).

62. Jay Luvaas, ed., *Napoleon on the Art of War* (New York: Free Press, 1999), Ch 6.

63. Ibid., 133. See also Yann Cloarec, ed., *How to Make War* (Paris: Ediciones La Calavera, 1998).

64. Napoleon Bonaparte, "Order of the Army No. 14552," in *Napoleon on the Art of War*, ed. Jay Luvaas (New York: Free Press, 1808), 10.

65. Napoleon Bonaparte, "Correspondence from Napoleon to Eugene," in *Napoleon on the Art of War*, ed. Jay Luvaas (New York: Free Press, 1999), 14.

66. Luvaas, ed., *Napoleon on the Art of War*, 19.

67. Ibid., 88. See also David G. Chandler, *The Campaigns of Napoleon* (New York: Schribner, 1973).

68. Napoleon Bonaparte, "Napoleon to the Executive Directory," in *Napoleon on the Art of War*, ed. Jay Luvaas (New York: Free Press, 1796), 65.

69. General Dwight Eisenhower is often considered one of history's great generals, but not because of his success as a combat commander. His strategic and tactical vision were mediocre at best. General Eisenhower's contribution to warfare lay in his ability to keep American, British, French and other Allied forces united.

70. Van Crevald, *The Art of War: War and Military Thought*, 100. See also John R. Elting, "Jomini: Disciple of Napoleon," *Military Affairs* 28, no. Spring (1964).

71. John Shy, "Jomini," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 144.

72. Jomini says, "Indeed, if the art of war consists in throwing the masses upon the decisive points, it will be necessary to take the initiative." Antoine Henri de Jomini, *The Art of War* (London: Greenhill Books, 1996), 73.

73. Ibid., 69-70.

74. Jomini does warn against fighting what he calls "double wars." Spain serves as his primary example. The ultimate defeat of France is often attributed to the material and personnel losses and large number of troops kept in Spain fighting guerrillas and Lord Wellington. Ibid., 36-38.

75. Ibid., 43-45. Jomini also says of morale, "The first means of encouraging the military spirit is to invest the army with all possible social public consideration. The second means is to give the preference to those who have rendered services to the state, in filling any vacancies in the administrative departments of the governments, or even to require a certain length of military service as a qualification for certain offices." Hezbollah, Hamas and the PLO have all followed Jomini's maxim as each has fostered a spirit of martyrdom among their constituents, creating a ready supply of homicide bombers and guerrillas. de Jomini, *The Art of War*, 61.

76. de Jomini, *The Art of War*, 50.

77. Ibid., 50-51. See also Michael Handel, *Masters of War: Sun Tzu, Clausewitz and Jomini* (London: Frank Cass, 1992).

78. de Jomini, *The Art of War*, 91.

79. Van Crevald, *The Art of War: War and Military Thought*, 109.

80. Alan Beyerchen suggests that the human elements of Clausewitz's work make it eternally valid. Alan Beyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," *International Security* 17, no. 3 (1992): 60.

81. Carl von Clausewitz, *On War* (New York: Alfred A. Knopf, 1993), 83.

82. Clausewitz viewed war primarily as a conventional act between state-sponsored militaries. It is his views on conventional conflict and the totality of war that have enshrined the Prussian theorist in Western military thought. His discussion of partisan or people's war generally receives little discussion.

83. Peter Paret, "Clausewitz," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 191-92.

84. Among Clausewitz's most articulate critics is Martin van Crevald who challenges the applicability of Clausewitz in the post-Cold War world suggesting that his conception of total war is inappropriate for the asymmetric conflict of the 21st century. Van Crevald adds that Clausewitz's understanding of war, as an elemental act of violence waged by states, is as outmoded as his conception of total war. Martin Van Crevald, *The Transformation of War: The Most Radical Reinterpretation of Armed Conflict since Clausewitz* (New York: Free Press, 1991). Gary Ulman also argues that Clausewitz is irrelevant in the 21st century because he does not conceive of an enemy whose purpose is the annihilation of a people, as is the case with many asymmetric actors.

85. von Clausewitz, *On War*, 578.

86. In his own time, the defeat of France in Spain took many small engagements to slowly destroy French forces. Conventional battles between Anglo-Spanish forces and the French were rare and indecisive. History has also shown that partisan war is won bit by bit rather than "by a single stroke."

87. von Clausewitz, *On War*, 580.

88. Ibid.

89. Ibid., 581.

90. Ibid.

91. Arthur K. Cebrowski, "The Small, the Fast and the Many," *Net Defense*, January 15, 2004.

92. John G. Morgan, and Anthony D. Mc Ivor, "Rethinking the Principles of War," *Proceedings* October (2003).

93. Clausewitz recognizes that conventional forces and the asymmetric actors opposing them rely on tactics which are largely diametrically opposite. Where American forces in Iraq, for example, seek to cordon insurgents in Fallujah utilizing mass to overwhelm the enemy, insurgents seek to remain dispersed and prevent themselves from being trapped because they have initiated a tactical defense. See Walter M. Hudson, "The Continuing Influence of Clausewitz," *Military Review* March-April (2004).

94. von Clausewitz, *On War*, 581.

95. Ibid., 582. In his discussion of offensive and defensive warfare, Yitzhak Klein illustrates the difficulty conventional forces have in fighting the type of war advocated by Clausewitz. As Klein points out, "…military establishments tend to prefer offensives because planning offensives creates an impression of control over the course of events and because successful offensives make things happen in a particular way—they compel." Yitzhak Klein, "Long Defensives: Victory without Compellence," *Comparative Strategy* 15 (1996).

96. Peter R. Moody, "Clausewitz and the Fading Dialectic of War," *World Politics* 31, no. 3 (1979). Edward M. Collins, "Clausewitz and Democracy's Modern Wars," *Military Affairs* 19, no. 1 (1955).

97. A. T. Mahan, *The Influence of Sea Power Upon History, 1660-1783* (New York: Little Brown & Co., 1980). The basic premise of Mahan's greatest work is straightforward. Britain won the 17th- and early-18th-century contest with France because it gained supremacy of the seas and maintained the free flow of goods between Britain and its colonies.

98. See also A. T. Mahan, *The Influence of Sea Power Upon the French Revolution, 1793-1812* (Boston: Little & Brown, 1892). A. T. Mahan, Armaments and Arbitration (New York: Harper, 1912).

99. Jon Sumida, "New Insights from Old Books," *Naval War College Review* 54, no. 3 (2001).

100. Keith and Elizabeth Jane Errington Nielson, ed., *Navies and Global Defense: Theories and Strategy* (Westport, CT: Praeger, 1995).

101. Mahan, *The Influence of Sea Power Upon History, 1660-1783*.

102. Julian Corbett, *Some Principles of Maritime Strategy* (New York: Longman, Green and Company, 1911).

103. Michael Handel, "Corbett, Clausewitz and Sun Tzu," *Naval War College Review* 53, no. 4 (2000).

104. Ibid.: 3.

105. See Stephen W. Roskill, *The Strategy of Sea Power: Its Development and Application* (London: Collins, 1962).

106. John E. Mack, *Prince of Disorder: The Life of T. E. Lawrence* (Cambridge, MA: Harvard University Press, 1998).

107. Maxwell Johnson, "The Arab Bureau and the Arab Revolt: Yanbu to Aqaba," *Military Affairs* 46, no. 4 (1982).

108. T.E. Lawrence, *The Seven Pillars of Wisdom: A Triumph* (New York: Anchor, 1991).

109. Lawrence expressed his understanding of the Arabs and their Ottoman enemies saying, "Armies were like plants, immobile, firm-rooted, nourished through long stems to the head. We might be a vapor, blowing where we listed. Our kingdom lay in each man's mind; and as we wanted nothing material to live on, so we might offer nothing material to the killing." He adds, "In Turkey things were scarce and precious, men less esteemed than equipment. Our cue was to destroy, not the Turk's army, but his materials. The death of a Turkish bridge or rail, machine gun or charge of high explosive, was more profitable to us than the death of a Turk." Ibid., 192-94.

110. *T. E. Lawrence on Guerrilla Warfare* (2004 [cited February 15, 2004]); available from http://pegasus.cc.ucf.edu/~eshaw/lawrence.htm.

111. Lawrence, *The Seven Pillars of Wisdom: A Triumph*, Ch 15.

112. Ibid., 224.

113. Ibid., 225.

114. Lawrence viewed war as possessing three basic elements: hecastic (geography, weather, railways, etc.), bionomic (wear and tear, life and death, humanity) and diathetic (psychological). All aspects belong to one of these three elements. J. A. English, "Kindergarten Soldier: The Military Thoughts of Lawrence of Arabia," *Military Affairs* 51, no. 1 (1987).

115. Van Crevald, *The Art of War: War and Military Thought*, 204-05.

116. After retiring from the Royal Army in 1933, Major General Fuller began a prolific writing career, which increased his popularity and solidified his place as one of the 20th century's most influential strategists. Among his most influential works are *Military History of the Western World* and *Armament and History*.

117. B. H. Liddell-Hart, *Strategy*, 2nd ed. (New York: Meridian, 1991).

118. Robert H. Larson, "B. H. Liddell-Hart: Apostle of Limited War," *Military Affairs* 44, no. 2 (1980): 70.

119. Liddell-Hart, *Strategy*, Ch 1.

120. Ibid., 334-36.

121. Ibid., 337.

122. According to James D. Atkinson, technology and the psycho-political aspects of war are central to understanding the success of the indirect approach. For the asymmetric actor, overcoming the technological disadvantage and exploiting the psychological is key.

James D. Atkinson, "Liddell-Hart and Warfare of the Future," *Military Affairs* 29, no. 4 (1965).

123. Italian general and pioneer of air power theory, Giulio Douhet, suggests in his classic Command of the Air that strategic bombing before the use of ground forces can win a war before it starts. By knocking out communications, industry and military facilities a nation can be so demoralized that it sues for peace. In effect, Douhet advocates an indirect approach utilizing airpower to accomplish what Liddell-Hart expected ground forces to accomplish. Giulio Douhet, *Command of the Air* (Washington, D. C.: Office of Air Force History, 1983). See also Michael J. Eula, "The Classical Approach: Giulio Douhet and Strategic Air Force Operations: A Study in the Limitations of Theoretical Warfare," *Air University Review* September-October (1986).

124. Liddell-Hart, *Strategy*, 367.

125. Mao Tse-tung, *On Guerrilla Warfare*, trans. Samuel B. Griffith II (Urbana-Champagne, IL: University of Illinois Press, 1961). For a more in depth look at the military thought of Mao, see his collected works. Mao Tse-tung, *Selected Works of Mao Tse-Tung*, vol. 1 (London: Lawrence and Wishart, 1954).

126. Tse-tung, *On Guerrilla Warfare*, 21.

127. Josephus, *The Jewish War*.

128. In his translation of *On Guerrilla Warfare*, General Samuel B. Griffith suggests that it is virtually impossible to defeat a guerrilla movement if it successfully passes through phase I. Tse-tung, *On Guerrilla Warfare*, 33.

129. Leroy Thompson, *The Counter-Insurgency Manual* (London: Greenhill Books, 2002).

130. Historically, the overthrow of an unpopular ruler by an outside power holds wide support early, but quickly looses favor the longer an intervening power remains. This was true of the Romans after the battle of Pydna (168 B.C.), when the Legions removed Macedonian dominance from Greece, but stayed, and has been the case in many other examples since.

131. Tse-tung, *On Guerrilla Warfare*.

132. General Vo, while ultimately victorious, moved to phase III prematurely in 1950 and 1968. Vietminh and, later, Viet Cong forces were obliterated, nearly leading to the collapse of communist efforts.

133. Tse-tung, *On Guerrilla Warfare*, 26.

134. Ibid., 46.

135. Ibid., 48.

136. Ibid., 52. Mao also explains that the strategy of the guerrilla is based on tactical offense, tactical speed and tactical operations on exterior lines of operation. Acknowledging the defensive nature of guerrilla warfare, Mao warns the guerrilla that he must be pre-

pared for protracted operations. Most importantly, Mao warns the guerrilla commander against the use of static defense. Tse-tung, *On Guerrilla Warfare*, 97-98.

137. Tse-tung, *Selected Works of Mao Tse-Tung*. See also *Mao Tse-tung, Selected Works of Mao Tse-Tung*, vol. 2 (London: Lawrence and Wishart, 1954).

138. Zedong Mao, *The Situation and Tasks in the Anti-Japanese War after the Fall of Shanghai and Taiyuan* (New York: Foreign Language Press, 1956). Marjorie Dryburgh, *North China and Japanese Expansion 1933-1937: Regional Power and the National Interest* (London: Curzon Press, 2000).

139. Karim Kadim, "Insurgent Attacks Kill 8: Iraqi Official Discourages Protests," *USA Today*, March 28, 2005.

140. Sun-tzu and Mao discouraged the use of terrorism for the very reason mentioned.

141. Anthony James Joes, *Resisting Rebellion: The History and Politics of Counterinsurgency* (Lexington, KY: University of Kentucky Press, 2004).

142. Nguyen Giap Vo, *People's War People's Army* (New York: Bantam Books, 1962).

143. Ibid., 27.

144. Ibid., 68.

145. Ibid.

146. Donald M. Snow suggests war is waged for limited or total ends by limited or total means. See Donald M. Snow, *From Lexington to Desert Storm and Beyond* (Armonk, NY: M. E. Sharpe, 2000), Ch 1.

147. Nguyen Giap Vo, *How We Won the War* (Philadelphia, PA: Recon, 2001).

148. Ibid., 24.

149 Ibid., 48-49. Throughout the American presence in Vietnam, communist forces operated under a strategic and tactical doctrine similar to that of Afghan forces during the Afghan War (1979-1989). Both relied heavily on the ambush to attack unsuspecting patrols and convoys. They also sought to harass communication and supply lines. In most instances, attacking forces dispersed before air support could arrive. See Ali Jalali, *Afghan Guerrilla Warfare: In the Words of the Mujahideen Fighters* (St. Paul, MN: MBI Publishing, 2001).

150. In other instances he also uses People's War.

151. Che Guevara, *Guerrilla Warfar*e (Lincoln, NE: University of Nebraska Press, 1998).

152. Ibid., 7-9.

153. Ibid., 22.

154. Ibid., 99-100.

155. Ibid., 23.

Lowther Slide Addendum:
Asymmetric Warfare and Military Thought

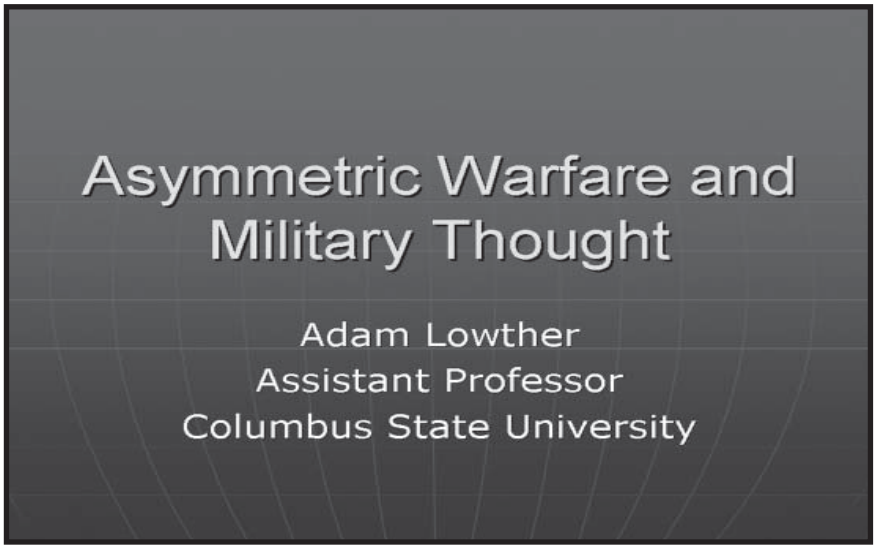


Figure 1

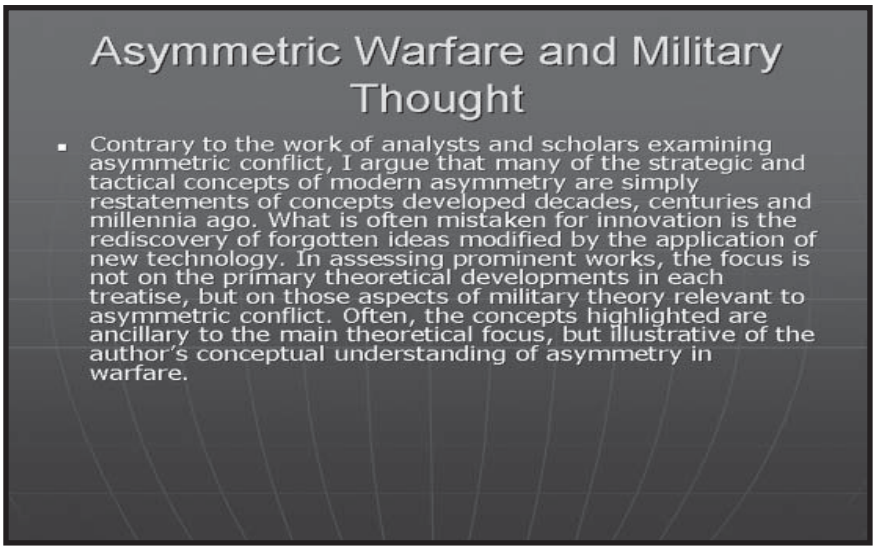


Figure 2

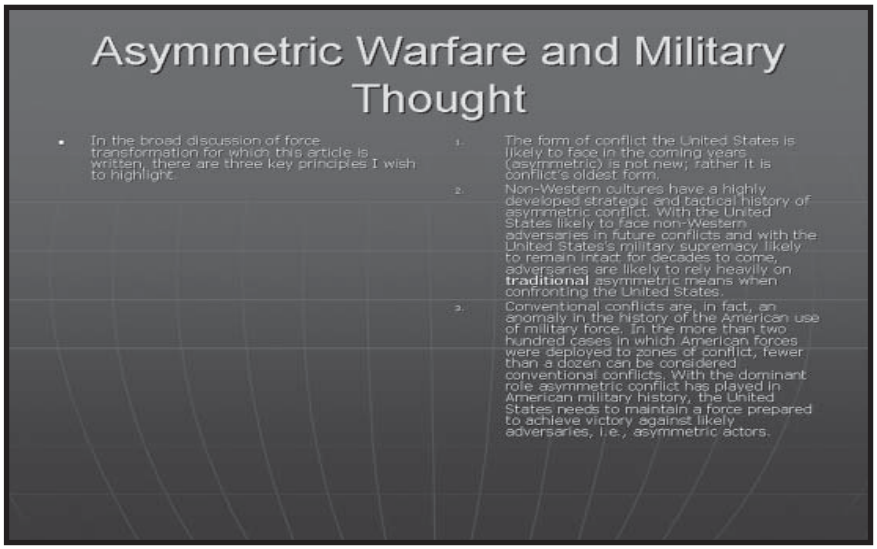


Figure 3

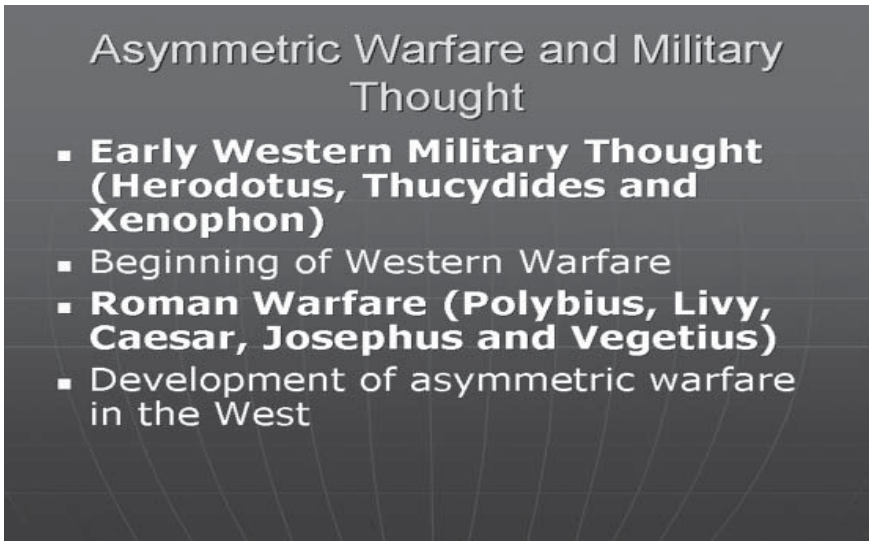


Figure 4

Figure 5

Figure 6

"Adapting to Maneuver Warfare in a Civil War Campaign: Union Reactions to Sterling Price's Missouri Expedition of 1864"

Dr. Kyle S. Sinisi–The Citadel

In the late summer of 1864, Sterling Price began what would be the last major Confederate offensive of the Civil War. Headquartered south of Little Rock, Arkansas, Price intended nothing less than the reconquest of Missouri, a state that had been occupied by Union forces since September 1861. The expedition was a dismal failure. Price marched north to Missouri with 12,000 cavalrymen and fourteen pieces of artillery in August 1864. He then lingered in the state for almost two months, attempting to stage a popular uprising. Union forces from Kansas, Missouri, Illinois, and Tennessee eventually concentrated against Price, ejecting him from the state in a series of battles fought along the Kansas and Missouri border.

Price's expedition has drawn its fair share of historiographical attention. Not so surprisingly, most of that attention has focused on the Confederate side of the campaign. A host of questionable decisions haunted Sterling Price, and historians have rarely missed the opportunity to analyze them in various ways. The list of problematical decisions includes everything from mission objectives, march rates, the willingness to give battle at certain points, and the desire to loiter in the state in search of recruits. This concentration, though important, has distorted a more complete understanding of the campaign. With an obvious parallel to the historiography of the Battle of Gettysburg, historians have thus been more prone to ask how the Confederacy lost the Missouri expedition as opposed to how the Union won it.[1]

A shift of attention to Union operations reveals one of the more striking aspects of the campaign. Union forces in Missouri were completely unprepared for a large-scale invasion. Only in hindsight, and against a litany of Confederate woes, does Union victory seem almost certain. At the time of the invasion, the United States Army had just concluded a massive reduction of manpower in the Department of Missouri. For most of the war, the army had maintained substantial numbers of troops in the state. These numbers were a testament not only to the scale of the state's bloody guerrilla war, but also the strategic importance of St. Louis as a staging area for Union expeditions into the lower south. But with the ascendancy of Ulysses S. Grant to the overall command of the army, the Union developed for the first time a coherent strategy to the end the war. However, that strategy focused almost exclusively on operations east of the Mississippi River. Believing Missouri secure from everything except guerrilla uprisings, the army then stripped the Department of Missouri of its manpower throughout 1864.

By September 30, the department had lost 42,000 soldiers, or 67% of its aggregate strength. All that was left was 18,000 men and fifty pieces of field artillery to defend a state of 69,000 square miles.[2]

The loss of these volunteer troops presented William S. Rosecrans, the commander of the Department of Missouri, with another problem. The soldiers left behind in Missouri were specialized, but they also carried a distinct set of virtues and liabilities. Most of Rosecrans's troops were members of the Missouri State Militia or MSM. Unique in American military history, the MSM was a full-time state militia paid and supplied by the United States government. Designed primarily for counter-guerrilla operations, the MSM could never leave the boundaries of Missouri. Over the years of the war, a number of MSM units developed into fairly capable guerrilla fighters. By the same token, an equal number of MSM units developed a reputation for brutality born of prewar blood feuds and a simple desire to plunder northern and southern sympathizers alike.

This then was the army that General Rosecrans had to defend Missouri in 1864. Trained to fight guerrillas, this force had little regimental structure aside from that appearing on paper. To cover the maximum amount of territory, Rosecrans scattered the MSM about the state in company- or detachment-size outposts. Although there was no shortage of regimental commanders who participated in some small-unit raids and ambushes, it was the rare commander who ever took the field at the head of his entire regiment. These men were guerrilla fighters and little more. To defeat Sterling Price, the Union army would have to adapt quickly to a changed mission. Although ultimately successful, the army did some things better than others. As befitted its great capabilities in steam transportation, the Union was able to move back into the department significant numbers of men who would be vital to the final victory. Similarly, Federal troops could readily adapt pre-existing technical advantages in armaments and intelligence gathering to fighting a large-scale maneuver campaign. Nonetheless, the one thing the Union could not adapt quickly was training. This was especially so for field-grade officers and senior commanders. Thrust into command situations involving strange circumstances and large numbers of men, these officers frequently became either tentative or indecisive.

A Description of the Campaign

Sterling Price started his campaign in late August 1864. Stationed at Princeton, just sixty miles south of Union occupied Little Rock, Price gathered together two divisions of cavalry and aimed to penetrate a line of Union occupied posts that ranged down the Arkansas River from Fort Smith to the Post of Arkansas near the Mississippi River. By September 6, Price had successfully frozen the Union

garrison at Little Rock and passed around it to the west. Over the next nine days Price marched slowly, heading for Batesville in northeastern Arkansas. Price met no resistance and benefited greatly from poor Union decision making back at Little Rock. He was not, in other words, pursued. In the vicinity of Batesville, Price linked up with his third, and final, division. The Army of Missouri was now complete and ready to march into Missouri.

Price intended to seize St. Louis. Aside from its valuable military stores, the city was important as a symbol, and Price believed that its early capture would result in a recruiting bonanza for his small army. While Price's assessment of recruiting possibilities was grossly exaggerated, he never got the chance to attack the city. He crossed the Missouri border on September 19 only to discover that fears of his invasion had prompted Union authorities to redirect to St. Louis at least one division of infantry that had been headed toward William T. Sherman's army in Georgia.

The presence of the infantry altered Price's short-term objective, but it did not shake his belief that he could yet spark a popular uprising in the state. After a disastrous attempt to reduce an isolated Union garrison located at Pilot Knob, about ninety miles southeast of St. Louis, Price marched for central Missouri and its wildly pro-Confederate Boonslick counties, which ran along the Missouri River all the way to Kansas City. Once in the Boonslick, Price believed that he could absorb the recruits necessary to reverse his course and eject all Yankees from St. Louis and the state. Price reached Jefferson City on October 7 only to skirt the capital and head further up the river to Boonville. Price had finally made it to the heart of Missouri's pro-Confederate population. It was also a critical period in the campaign.

For the next ten days, Price lingered in the Boonslick. More than 8,000 recruits bolstered Price's ranks, but it was hardly the 50,000 men that Price had anticipated—and needed—to make his dream of redeeming Missouri for the Confederacy a reality. Not only had Price not achieved a critical mass of recruits, but he was now in great danger as the Union military had finally mobilized its forces in the departments of Kansas and Missouri. From the southeast and east, Union cavalry commanded by Major General Alfred Pleasonton began to press the Confederate rear. From the west and the Department of Kansas, Major General Samuel Curtis marched toward the front of Price's column. For reasons never explained, Price determined on October 19 to not flee to the southeast, which might have allowed him to more easily preserve his army and its precious new recruits. Instead, Price continued his march toward Kansas City, where he planned on pivoting to the south and dashing for the Arkansas border. This was a mistake. On October 23, the Union pincers finally caught up to Price in the suburbs of Kansas City.

At the Battle of Westport, Price received a stinging defeat, barely escaping with his cavalry and trains intact. Nearly seventy miles to the south along the banks of Mine Creek, the invaders were not so fortunate. Union cavalry annihilated one of Price's divisions. Union pursuit continued all the way through the Indian Territory and to the Arkansas River, forcing Price's army to hemorrhage hundreds of men on a daily basis. Even after the Yankee cavalry stopped the chase, Price plodded on with the remnant of his army to Laynesport in the southwestern corner in Arkansas. By December 1 it was all over. After a march of 1,400 miles, Price had lost nearly 7,000 troops of all types and with them all hope of conquering Missouri.

Adapting to a Changed Mission

In order to fight Price, William Rosecrans's first concern was manpower. He had few troops, and what he did have was scattered about the state. He needed reinforcements if he was ever going to actually confront Price on a battlefield. Fortunately for Rosecrans, the Union army possessed great flexibility in the deployment of its troops. Steamboats and railroads were the literal vehicles that drove this flexibility, and Rosecrans quickly exploited them as he sought reinforcements from outside his command jurisdiction.

Despite having a notoriously prickly personality, Rosecrans encountered no petty squabbles among the competing, or adjacent, department commanders in Tennessee and Illinois. They willingly provided the troops. Ironically, the greatest impediment to getting reinforcements came from Washington. Both the army chief of staff, Henry W. Halleck, and the commanding general, Ulysses S. Grant, distrusted Rosecrans greatly, and they saw his pleas for troops as a case of paranoia. Grant, in particular, thought Rosecrans's requests absurd, and at one point earlier in the summer he caustically informed Halleck that Rosecrans would scream for troops even if he "were stationed in Maine."[3] Nevertheless, these same generals consented soon enough to transfers of soldiers from Cairo, Illinois and Memphis, Tennessee.

The troops from Cairo were the first, and the most important, to arrive at St. Louis. On September 10, with Price then just north of Little Rock and headed for Batesville, Arkansas, one division of A.J. Smith's XVI Corps loaded up on transports for the 170 mile journey along the Mississippi River to St. Louis. Just three days later the men began to disembark at the city's wharves. The citizens of St. Louis sensed the importance of the moment and treated Smith as the personal savior of their city. There was no exaggeration in this as Sterling Price would soon enough get word of Smith's arrival in the city. Consequently, Price decided

that his army of cavalry could not attack this infantry, and an assortment of militia gathered from Missouri and Illinois, in the city's extensive fortifications.[4]

Another two divisions of A.J. Smith's XVI Corps became the second set of troops to come to the rescue of the Department of Missouri. The entry of these troops into the department would eventually become the decisive factor in the final defeat of Price. Commanded by Joseph Mower, the two divisions had been chasing Price almost from the beginning of the expedition. In a more than roundabout fashion, Mower's troops had marched first from Memphis, Tennessee deep into the heart of Arkansas in search of Price. Price was, however, nowhere to be found. Union forces headquartered in Little Rock had long ago lost contact with Price, and they could relay no positive information regarding his location. Mower therefore missed Price's movement through the state by about four days. Undeterred, Mower marched to the north in pursuit of Price. Forever behind the Confederate, Mower eventually detoured east toward Cape Girardeau on the Mississippi River where he could pick up river transport to St. Louis.

Here, again, the Union's transport capabilities proved important. Upon their march into Cape Girardeau, Mower's troops were combat ineffective. Horses and men had been ridden to exhaustion. Many of the infantry had long since burned through their shoes on a 400-mile odyssey through swamps and rugged terrain. Critically, and as a testament to the Union's logistical abilities, these men would not remain combat ineffective for long. The soldiers arrived at Cape Girardeau on October 5, and two days later steamboats began ferrying them up the Mississippi River another 170 miles to St. Louis. By the 10th, all troops had landed safely ashore and had moved into Benton Barracks outside of the city. Shortly thereafter, the infantry and cavalry were almost completely refitted. Quartermasters issued new clothing and boots, and the cavalry, commanded by Edward Winslow, turned in over 500 unserviceable horses. No sooner did the troops get refitted than they were headed for Price, who was by this time beginning his sojourn in the Boonslick. Not surprisingly, the Union once again used its steamboat lift capacity to bring most of the troops 140 miles down the Missouri River to Jefferson City. Other troops went by railroad for at least part of the journey. By October 15, the cavalry, in particular, were in a position to start its close pursuit of the enemy. Union superiority in transportation had allowed Rosecrans to negate his initial weakness.[5]

In a similar fashion, Union forces could exploit other advantages as they rode to attack the enemy. In both firepower and intelligence gathering, the Union was able to adapt technologies and methods originally configured to counter-guerrilla operations for use in a maneuver campaign. In weaponry, the Union possessed a significant combat multiplier. While the average Confederate possessed some sort

of single-shot long rifle or pistol, it was not unusual to see repeating rifles among the Union troops. This advantage was not confined to the volunteer cavalry then flowing into Missouri. Numerous MSM companies, and an assortment of home guard militia, carried the rifles. For the militia, repeating rifles had become standard equipment in mounted anti-guerrilla operations. Indeed, the decentralized nature of counter-guerrilla operations in Missouri and Kansas contributed to the proliferation of repeating weapons. Companies and detachments were widely dispersed and small unit commanders simply took the initiative to buy the best weapons on the open market with money either privately raised or stolen from citizens deemed not loyal. In this fashion, seven-shot Spencer Carbines and fifteen-shot Henry Rifles became common place in units configured to fight in the bush or defend small towns against guerrilla raids. The decentralization of weapons adoption created no small headache for regimental commanders during Price's invasion. When they concentrated their dispersed companies, they then had to provide ammunition re-supply for different weapons requiring different calibers and types of cartridges. Ordnance officers nevertheless adapted to these conditions, and there were no reported cases of troops not having access to the proper ammunition on any of the battlefields of the campaign.[6]

Perhaps more important, regimental commanders were able to use the new repeating weapons to their advantage. Its appearance on the main line of battle gave an obvious edge to Union, but the new weaponry proved especially invaluable in the hands of soldiers fighting in an advanced line or in a rear guard action. The best example of this could be found at both the battles of Lexington and the Little Blue where the 11th Kansas Cavalry, and other supporting companies, fought rear guard actions against large portions of Price's army. The Spencer rifle allowed these rearguards on both occasions to delay Price several hours. Ultimately, these delaying actions allowed the further concentration of Federal troops arriving from the Department of Kansas.

With the telegraph, the Union had yet another device that could be adapted to serve troops fighting either guerrillas or larger armies. As it existed before Price's entry into the state, the telegraph system in the Department of Missouri was extensive. Although the system developed initially without a systematic plan, major lines generally followed the Missouri River and the North Missouri Railroad. Other lines branched off from the river and the railroad, leading to many of the larger cities and towns. Moreover, direct lines often ran between the towns, paralleling well traveled roads. Simply put, telegraphic communications united all major towns and military garrisons throughout the state. Military officials had been thus quick to seize upon the telegraph to aid their fight against the guerrillas. With companies and detachments of troops scattered about Missouri in fortified enclaves, commanders and scouts relayed near instantaneous intelligence con-

cerning guerrilla marches and attacks. Although far from perfect, the telegraph was the key to an early warning system that also enabled commanders to orchestrate pre-emptive strikes.

The benefits of the telegraph during Price's expedition have already been implied to some degree. It was through the telegraph that Rosecrans received information concerning Price's invasion of the state, and it was through the telegraph that Rosecrans requested and coordinated divisional size reinforcements from distant locations. Rosecrans was not, however, the only department commander to exploit the telegraph during Price's expedition. General Samuel Curtis in the Department of Kansas relied upon the device to not only mobilize his volunteer units, but he used the telegraph as a tool to energize popular support and persuade the Governor of Kansas to call out the militia. Throughout the summer of 1864, the militia in Kansas had been called repeatedly to the field to deal with guerrillas and Indians. More importantly, there was widespread disbelief that Price was actually headed for the state. With the fall elections looming, the governor did not want to mobilize the militia yet again and run a greater risk of not having them at the polling stations come Election Day. Consequently, General Curtis took the extraordinary step of passing on to the governor and the state's newspapers most telegraphic dispatches concerning Price's march. This measure was never fully appreciated by William Rosecrans, who was aghast when his confidential messages began appearing the newspapers. Despite Rosecrans's protests, these communications proved vital in finally persuading the governor to muster his militia and send it into Missouri to meet the advancing Confederates.

On a tactical level, the telegraph had great potential to alter just how and when Union forces could bring Price to bay. Both Rosecrans and Curtis were not unmindful of this, and they sought to keep the wires open from St. Louis to Kansas City. They also tried repeatedly to attach telegraphic details to the various scouts that probed for Price's army.[7] But it was here that the army's ability to adapt to a different mission began to break down. What went over the telegraph wires was entirely dependent upon what Union reconnaissance could provide the telegraph operator. In this matter, there was a frequent drop in the performance of Union officers, and it serves also to punctuate the biggest problem facing the Union as it tried to adapt its counter-guerrilla forces to larger-scale warfare. There were far too many officers who, while competent at fighting guerrillas, were less than stellar when it came to handling battalion-size, or larger, forces in the field. Waves of indecision and hesitation paralyzed numerous officers not trained or experienced in fighting a different kind of war.

This was particularly true of some field-grade officers fighting under Samuel Curtis in the vicinity of Kansas City. As Curtis collected his army, he tried to find

Price. By October 14, this meant concentrating two regiments of cavalry at Independence in order to conduct scouting missions in the area. One of the regiments, the 2nd Colorado, was an acclaimed unit in counter-guerrilla operations.[8] Unfortunately, its consolidated scouting operations were fruitless as they moved in a great loop toward Lexington and then back to Independence via Lone Jack and Hickman Mills. Rarely did these large formations press eastward beyond Lexington and into the heart of the Boonslick. There was no better example of this than when Major Nelson Smith led a scout of 300 men and a detachment of telegraph operators toward Lexington on October 16. By the next morning, they were on the outskirts of the city. Believing Confederate guerrillas in Lexington, Smith charged into the city with his men yelling like fiends and brandishing their pistols. Unfortunately for Smith, the guerrillas had evacuated the city much earlier in the morning. Smith followed up his breathtaking charge not by trying to find the guerrillas or by pressing further east and making contact with Price, who was then about twenty-eight miles distant. Instead, Smith interviewed what he termed a "pretty reliable authority" who asserted that Price's advance was eighteen miles away in Waverly. Believing this erroneous report, Smith telegraphed Curtis the news. He also claimed a shortage of rations and headed back to Independence, knowing little more about Price than when had started the scout.[9]

A similar situation, though on a much greater scale, took place among Rosecrans's troops in the Department of Missouri. While Rosecrans painstakingly concentrated volunteer cavalry and infantry from outside his department, he was dependent upon the Missouri State Militia to maintain contact with Price and literally not lose him. Unfortunately, this is exactly what happened. Brigadier John B. Sanborn had the primary responsibility of keeping tabs on Price once he moved beyond Jefferson City and began his sojourn in the Boonslick. An infantryman by training and experience, Sanborn had assumed command of the District of Southwest Missouri in the fall of 1863 and had been relatively successful in coordinating counter-guerrilla operations. Nevertheless, until the time of Price's expedition, he had not commanded anything as a large as a company of cavalry in the field. Now, in October 1864, Sanborn commanded a makeshift brigade of 4,500 troopers that his immediate superior, Alfred Pleasonton, had christened a "corps of observation."[10]

As Price skirted Jefferson City on October 9, Sanborn established contact with the enemy's rearguard. By nightfall on the 9th, the two sides separated. Sanborn was able to regain contact on the afternoon of October 10, much to the surprise of Sterling Price who seemed to think the Yankees had long disappeared. However, whatever aggressiveness Sanborn may have had soon disappeared. After driving Price's pickets upon the main body of the Confederate army, Sanborn not only disengaged, but he withdrew his corps of observation roughly thirty-six miles

to the south and completely out of the area of operations. Sanborn later tried to justify this abandonment of Price on logistical grounds. His brigade had little food and forage for the previous thirty-six hours, and Sanborn concluded that he needed to rest and re-supply before continuing the chase. This was, however, a weak argument. Price's men and animals were no less destitute than Sanborn's. More importantly, Union supply trains were en route to Sanborn and could have provided for all his needs in the forward area. It would take another ten days before Sanborn reestablished contact with Price's main body of troops. The intelligence blackout during that time allowed Price great freedom of movement. He was thus allowed to recruit thousands of men and destroy hundreds of thousands of dollars in public and private property. More importantly, General Samuel Curtis lacked the appropriate information to persuade the governor of Kansas to mobilize his militia and meet Price deeper in Missouri.[11]

The big surprise in this episode was not so much that Sanborn had failed, but rather how his chain of command reacted to that failure. Alfred Pleasonton, who on October 19 assumed command of Sanborn's brigade and all other cavalry gathering against Price, shrugged off the performance with only a passing remonstrance that Sanborn should have resupplied in a more forward area. More to the point, Pleasonton would not be so tolerant with two other general officers and one colonel over the next few days. Pleasonton had arrived in the Department of Missouri after Price had actually entered the state. The one-time commanding general of all cavalry in the Army of the Potomac, Pleasonton was an aggressive and charismatic leader, who had transformed the cavalry of the Army of the Potomac into a force equal to that of the horsemen in the Confederacy's Army of Northern Virginia. Pleasonton was also petty and unscrupulous. Because of these character flaws, he was not long for the Army of the Potomac. With little debate, the War Department transferred him west to what many considered the great personnel junk yard of the Union army, the Department of Missouri.

With much to prove in the campaign against Price, Alfred Pleasonton charged forth to find and attack the Confederates on the road to Kansas City. Once he collided with Price's rearguard at the Little Blue River on October 22 he was unwilling to let go. Tellingly, Pleasonton's advance consisted of the cavalry that had marched and sailed with Joseph Mower all the way from Memphis. Now led by Colonel Edward F. Winslow, these troops dismounted and fought well, pressing the attack after darkness fell on the 22nd. That night, Pleasonton decided to replace Winslow's jaded troopers in the advance with a brigade of cavalry commanded by Brigadier Egbert Brown. Much like Sanborn, Brown was an infantryman who had never commanded anything more than a company of cavalry in combat. Brown possessed a wealth of small-unit experience and was well versed in orchestrating companies against guerrilla ambushes and raids. But at that mo-

ment in time, he was in over his head. When the sun rose on the 23rd, Brown was in no position to deliver the attack. Instead, he had failed to move forward during the night, claiming only that Winslow's men had blocked his advance down the only road available. Pleasonton promptly relieved Brown, who would later be court-martialed.[12]

Pleasonton was not through with underperforming officers. No sooner did he sack Brown than he determined that Colonel James McFerran, one of Brown's MSM regimental commanders, had been derelict in his duties. A sitting judge when he was not ordinarily chasing Confederate guerrillas, McFerran ran afoul of Pleasonton when the divisional commander concluded that McFerran's regiment, the 1st MSM, had almost decomposed during the fight of October 22. Straggling was widespread, and rumors flowed that McFerran lurked in the rear with the horse holders. Pleasonton relieved McFerran and court martialed him for good measure.[13]

One final example of a senior officer who did not adapt to different responsibilities was Brigadier General John McNeil. Yet another of Pleasonton's brigade commanders, McNeil was a hat maker before the war. Sharp tongued and brusque, McNeil commanded various cavalry regiments between 1862 and 1864. It was, however, only on the rare occasion that McNeil led his entire force into the field: once to fight a guerrilla uprising in 1862 and again in 1863 when then Colonel Joseph Shelby raided the state with one brigade of cavalry. During Price's expedition McNeil's difficulties, much like those of either Major Nelson Smith or General Brown, stemmed from indecisiveness. At almost the same time Pleasonton had directed Brown to move to the head of the attack on October 23, he also directed McNeil to take his brigade on a long march to the south that would completely turn Price's army and block any projected retreat in that direction. It would not be a difficult march. The objective was close, the road was good, and his troops would be masked by the terrain for most of the ride.[14]

McNeil, however, faltered badly. He paused at least two hours to feed his horses and then again when he heard gunfire paralleling his line of march. Daylight found him nowhere near his objective, and he compounded his error when he came upon the eastern flank of Price's combined support trains then marching to the south. Protected by one under strength division and a horde of dismounted and unarmed recruits, Price's trains, which included about 1,000 head of cattle, were completely vulnerable. Not quite sure what to do, McNeil did next to nothing. Cowed by the presence of so many Confederates, he formed his men in a wooded ravine and ordered some long range sniping and artillery fire. For the duration of the morning and afternoon, the Confederate army just marched past the befuddled McNeil. It took Alfred Pleasonton some time to understand what

exactly had happened. But when a captured Confederate general officer later informed Pleasonton that McNeil could have bagged his army's trains, the brigade commander's fate was sealed. As he had with Brown and McFerran, Pleasonton court martialed McNeil for disobeying orders.[15]

Sterling Price's expedition had precipitated a crisis within the Union army. Absent a modern staff system, or at least one resembling the German General Staff at mid-century, the army was totally unprepared to deal with the invasion. There was neither a contingency plan nor a special staff dedicated to considering how the army might transform its capabilities from counter-guerrilla operations to a more concentrated maneuver warfare. Any change or adaptation would occur on an ad hoc basis, and it would depend first upon the ability of the army to exploit its pre-existing advantages in communications and transportation. That the army could organize and transport large numbers of men more than justified the decision to strip Missouri of its troops in order to fight in other regions. Ironically, these same advantages enabled the army to import a set of troops into the theater of operations who were experienced and trained to fight large-scale maneuver battles. Although the historical record is replete with instances of the MSM performing well during the invasion, their ultimate contribution--or at least that of their commanders--pales in comparison to those units introduced from outside Missouri. Whether it was 11th Kansas Cavalry at the Little Blue River or Edward Winslow's brigade at either Westport or Mine Creek, the decisive moments in battle would be settled by newcomers to the Department of Missouri. The ability to fight in a new way, which Price's invasion dictated, could only come through training and experience, especially for its officers. To fight a new or different type of battle without an emphasis upon training was to invite difficulty. It was a lesson that John Sanborn, Egbert Brown, and John McNeil could readily appreciate.

Notes

1. For a sampling of the historiography and its interest in the Confederate side of the campaign, see Albert Castel, *General Sterling Price and the Civil War in the West* (Baton Rouge: LSU Press, 1968); Stephen B. Oates, Confederate Cavalry West of the Mississippi River (Austin: University of Texas Press, 1961; Richard S. Brownlee, "The Battle of Pilot Knob, Iron County, Missouri, September 27, 1864," *Missouri Historical Review* 69 (1964): 1-30 and Samual Gill, "Liberator Unmercifully Hounded," *America's Civil War* 1 (1988): 34-41.

2. *The War of Rebellion: A Compiliation of the Official Records of the Union and Confederate Armies* (Washington, DC: Government Printing Office, 1880-1901) (cited hereafter as *OR)*, Series 1, Volume XXXIV, Part II, 202; William M. Lamers, *The Edge of Glory: A Biography of General William S. Rosecrans*, U.S.A (New York: Harcourt, Brace, and World, Inc, 1961), 416-417. *OR*, Series 1, Volume XLI, Part III, 527. Grant quoted in *OR*, Series 1, Volume XXXIV, Part IV, 527.

3. Grant quoted in *OR*, Series 1, Volume XXXIV, Part IV, 527.

4. *OR*, Series 1, Volume XLI, Part III, 224. Price's decision to abandon a march on St. Louis is discussed by one of his generals, Jo Shelby, in Shelby to C.C. Rainwater, January 5, 1888, typescript, F. 1, B. 6, Cyrus A. Peterson Collection, Missouri Historical Society, St. Louis.

5. *OR*, Series 1, Volume XLI, Part I, 320-322, 327-328; George P. Walmsley, Sr., *Experiences of a Civil War Horse-Soldier* (University Press of America, 1993), 108-110; Byron C. Bryner, *Bugle Echoes: The Story of the Illinois 47th* (Spring field, IL: Phillips Bros., Printers and Binders, 1905), 146.

6. Charles S. Grover, "The Price Campaign of 1864," Missouri Historical Review 7 (1912): 173-174; J.P. Randolph, et. al. to Louis Benecke, February 26, 1895, F. 2283, B. 86, Benecke Papers, Western Historical Manuscripts Collection, Columbia, Missouri; Lumir F. Buresh, *October 25th and the Battle of Mine Creek* (Kansas City, MO: The Lowell Press), 116.

7. *OR*, Series 1, Part I, 612-614; St. Joseph *Daily Herald*, December 17, 1882.

8. Douglas R. Cubbison, "Look Out for Hell Some Place Soon: The 2nd Colorado Cavalry in Missouri, February-September, 1864," *Military History of the West* 32 (2002): 1-6.

9. *OR*, Series 1, Part I, 606-607, 612-614; St. Joseph *Daily Herald*, December 17, 1882.

10. It should be noted that Sanborn did have extensive experience commanding large numbers of infantry. In the first half of 1863, he led a brigade of infantry during Ulysses

S. Grant's Vicksburg campaign. It was, nonetheless, an experience that did not prepare him to lead a brigade of cavalry on a reconnaissance in force.

11. John B. Sanborn, "The Campaign in Missouri in September and October, 1864," in *Glimpses of the Nation's Struggle*, Third Series, Papers Read Before the Minnesota Commandery of the Military Order of the Loyal Legion of the United States, 1889-1892, edited by Edward D. Neill (New York: D.D. Merrill Company, 1893), 163-166; *OR*, Series 1, Volume XLI, Part I, 387-388, 674 and Part III, 817; *The National Tribune* (Washington), December 31, 1925.

12. *OR*, Series 1, Part I, 336-337.

13. *OR*, Series 1, Part I, 336-337; Proceedings of a General Court Martial held at St. Louis, Mo., In the Case of Colonel James M. McFerran, File # LL 2942, RG 153, NARA.

14. Richard J. Hinton, Rebel Invasion.... (Chicago: Church and Goodman, 1865), 345-348; *OR*, Series 1, Part I, 336-337, 372; Proceedings of a General Court Martial in the Case of United States vs. Brig. Gen. John McNeil, File # NN 3336, RG 153, NARA.

15. *OR*, Series 1, Part I, 336-337, 372; Proceedings of a General Court Martial in the Case of United States vs. Brig. Gen. John McNeil, File # NN 3336, RG 153, NARA.

Sinisi Slide Addendum:

Adopting to Maneuver Warfare in a Civil War Campaign: Union Reactions t Sterling Price's Missouri Expedition of 1864

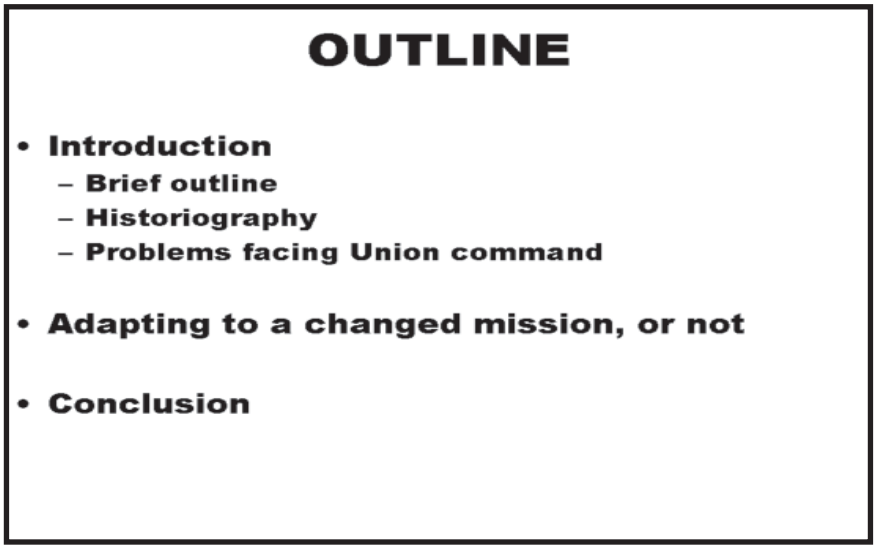
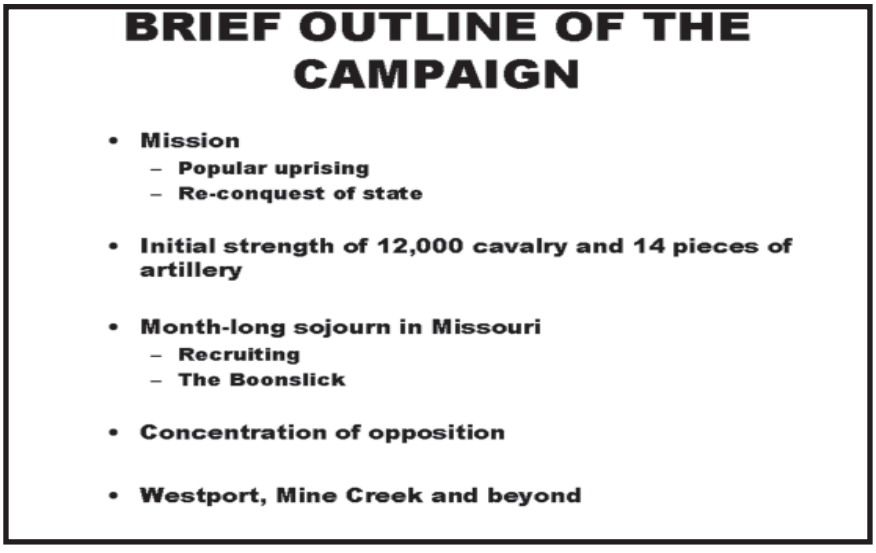


Figure 1



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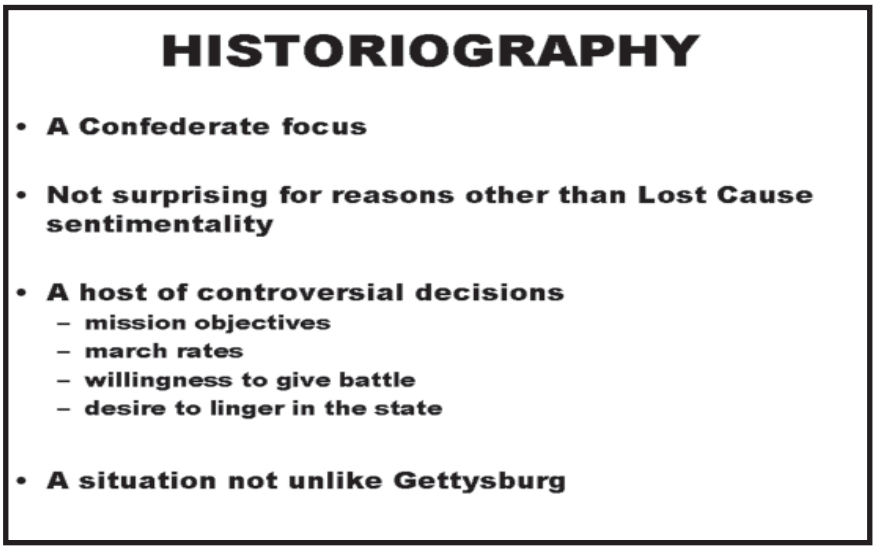

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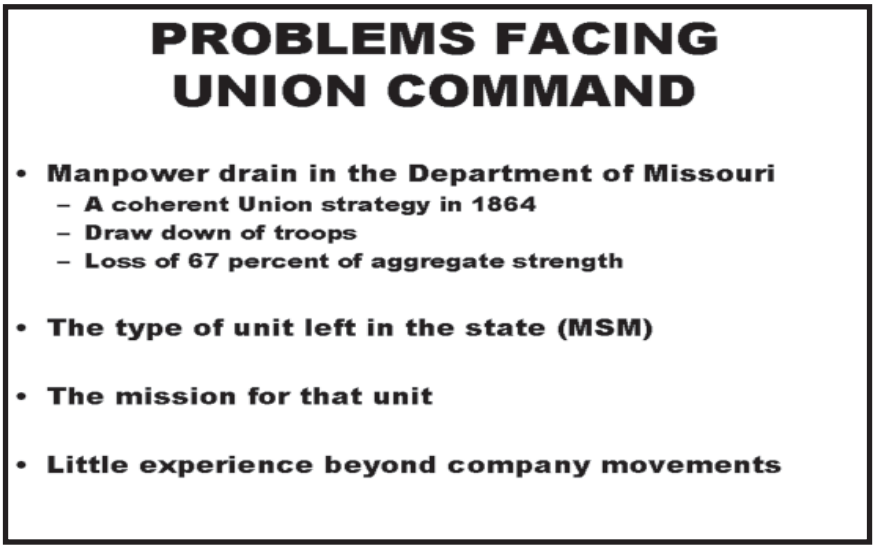

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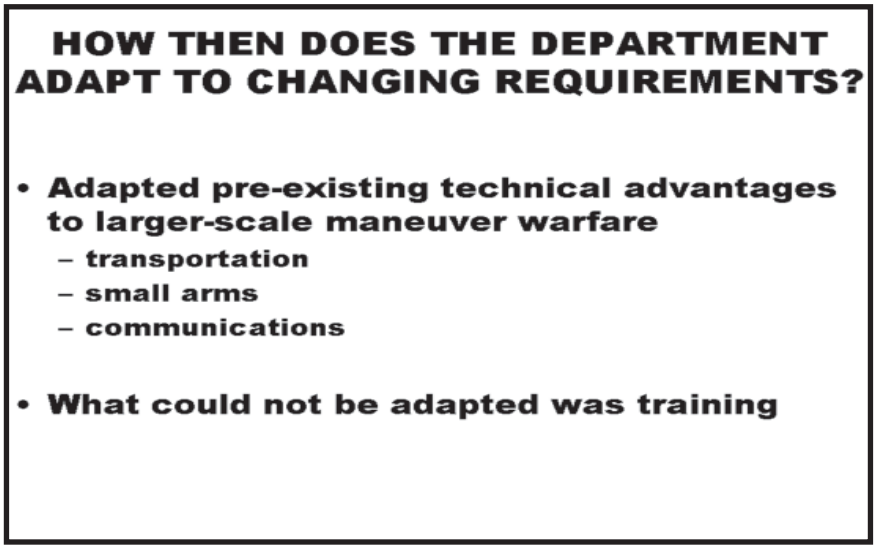

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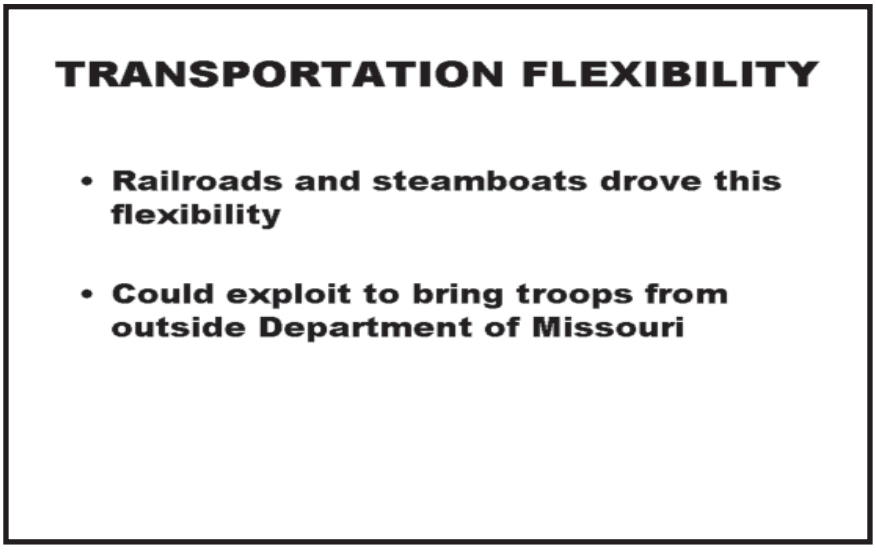

Figure 6

NECESSITY OF INCREASED MANPOWER

- **Rapid coordination between departments and Washington**
- **AJ Smith**
  - **Cairo-- 9/10**
  - **St. Louis -- 9/13**
  - **Deflection of Price**
- **Joseph Mower**
  - **Memphis -- 9/1**
  - **Brownsville -- 9/8**
  - **Cape Girardeau -- 10/5**
  - **St. Louis -- 10/10**
  - **Jeff City -- 10/15 (710 miles)**
- **Significance of Mower's (Winslow's) arrival**

Figure 7

WEAPONRY

- **2nd technological advantage to be adapted**
- **Confederate status**
- **Proliferation of repeating rifles**
  - **In those units coming in**
  - **In those already there**
- **Widespread usage among vols and MSM**
  - **Ideal for counter-guerrilla in the bush**
  - **Decentralization of units and of adoption**
- **Repeaters decisive in rear guard actions**

Figure 8

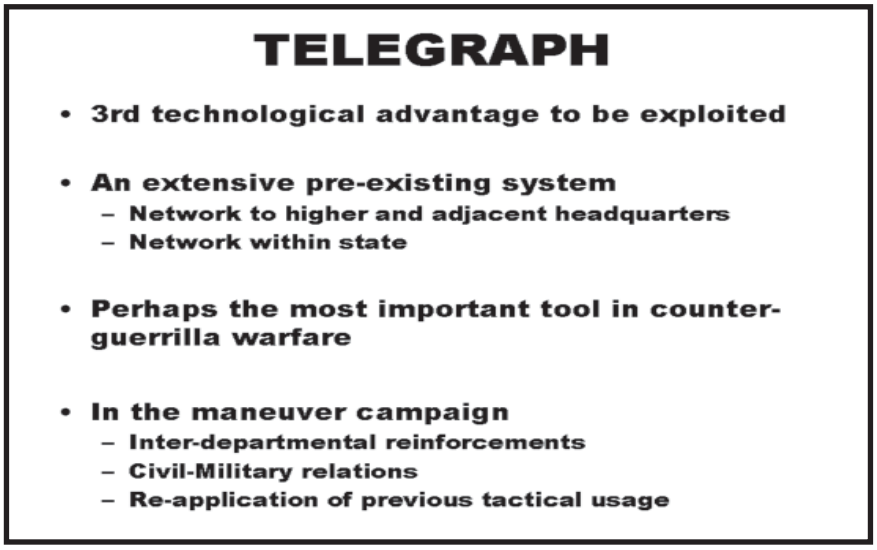

Figure 9

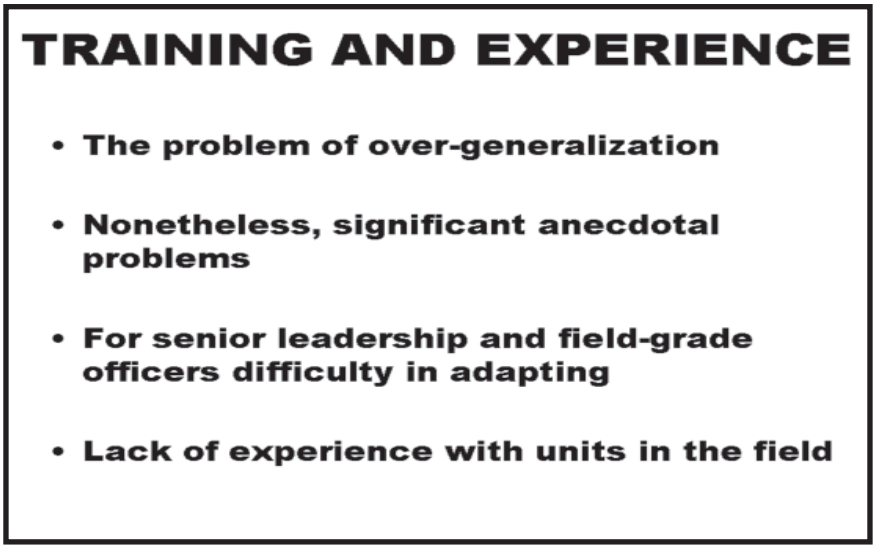

Figure 10

TENTATIVE BEHAVIOR FROM EXCELLENT OFFICERS

- **Battalion-sized scouts that went nowhere**
  - **The Great Loop**
  - **The example of Nelson Smith**
- **Sanborn and the Corps of Observation**
  - **Strikes Oct 10**
  - **Withdrawal**
  - **Ten-day intel blackout**
  - **Consequences in recruits, property damage, and location of climactic battles**

Figure 11

PROBLEMS AT THE BIG BLUE

- **Egbert Brown**
  - **Experience**
  - **Circumstances**
  - **Failure**
  - **Court Martial**
- **James McFerran**
  - **Experience**
  - **Circumstances**
  - **Failure**
  - **Court Martial**

Figure 12

- **John McNeil**
  - **Experience**
  - **Mission**
  - **Delay**
  - **Final position**
  - **Indecision**

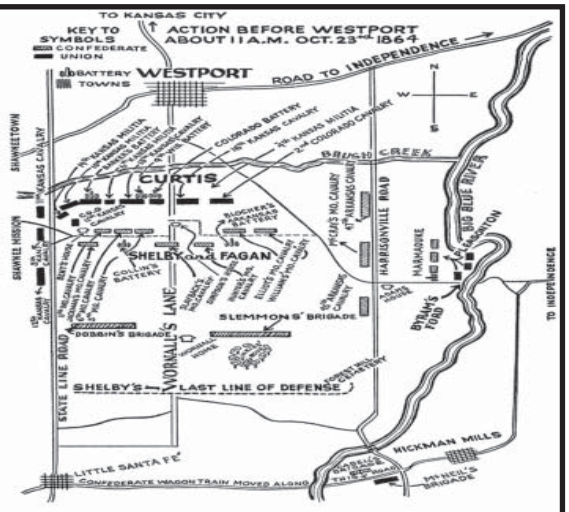

Figure 13

CONCLUSION

- **Union unpreparedness**
  - **No contingency plan**
  - **No special staff to consider transformation**
- **Adaptation would be ad hoc**
- **Dependence upon technological advantages**
- **Leadership not trained and do not adapt well**

Figure 14

Day 1, Session 3 Question and Answers

Moderated by
Professor John A Lynn - University of Illinois

Professor Lynn
I want to leave some time for discussion, so I'm going to cut my comments pretty much to the bone. But there are a few points I really would like to throw out.

We've got three different discussions here, and our last presenter, Adam, could have said more from his paper—his paper was 70-some pages long; I was amazed at the brevity here. And I'm going to make some comments based on parts of his paper that he didn't present, because I think they need to be made.

In the first case we looked at, the real change in the midst of war, when you come down to it, was changing the personnel—some of the personnel at the top, and bringing in regular federal troops from Illinois and from Tennessee, bringing them up to actually do the main part of the fighting. There were good counter-guerilla troops in Missouri, but there weren't enough, and they didn't know how to deal with a conventional enemy.

In the second case, where we talked about adaptation in Chinese Farm—again, the paper's really excellent, and the oral presentation has to do a lot of pruning—but the point is that the Israelis really are pretty amazing in this, because they developed a kind of arrogance towards Arab armies in general. Then, they developed an arrogance towards tank warfare, and then found that the tank, unsupported by infantry, is suddenly going to get cut apart, because what is not brought out here is the Egyptians went through a major military reform of themselves, which is even more miraculous, in a sense. It's limited, but what they did is they decided, "We can't play the tank mobile warfare game with the Israelis. But what's really good for us is our infantry—they're brave, they obey orders; they will fight resolutely. So let's base it on the infantry." Then if you do that, how do you remove the tank forces and how do you remove the air forces? You do it with new weapons technology.

Then, because the Egyptian forces has not shown a lot of ability to, as it were, adapt on the fly, then you rehearse and you rehearse and you rehearse. The Sagger crews spent hundreds of hours—each crew—practicing in simulators on the Saggers. There were 32 simulated crossings of the canal by the Egyptian Army—they practiced it till they knew it by heart. But it is fair to say they only knew it by heart—they could not improvise once the Israelis upset that plan.

But this new Egyptian Army chewed up the Israelis on the 8th of October. The amazing thing to me is that the Israelis could rethink and reorganize that fast. But again, it was within the context of a conventional war. It's a step beyond, then, our example coming from the Civil War.

Some of the comments that Adam makes in his paper are kind of lessons learned from looking at the literature on asymmetrical war. I think there what we have to think is you're not just talking about taking the same troops immediately and having them do something else; you're really talking about a different psychology. Now here, General Brown and I will disagree—and I have immense respect for General Brown; he's just a fine historian and a fine man—but I disagree that one size fits all.

One size may fit all—you may be able to get a single unit to cover the whole realm of response, if they are carefully trained from A to Z, but you can't do that, in reality. I talked to General Zinni once—of course, again, the Marine's feel that a Marine can do absolutely anything; I mean, they practically come with capes, okay? [Laughter] I said, "Okay, your guys could do anything. How long will it take you to train from a conventional mission to a counterinsurgency?" "Oh, six months." Well, good; if you've got six months, great. Otherwise, you better have people who know what they're doing when they go in.

We also get the example that, "Well, the British do it so well." Yeah, well, they did it really well on Bloody Sunday, because you took in troops who weren't in a counterinsurgency or crowd control men—the paras—and they blew people away. Now, the British did show a great ability to train regular troops for constabulary roles, and did a wonderful job. But that takes not just one size fits all—it takes recutting the cloth, and make something else.

I would argue that the greatest change in the midst of war isn't bringing in other troops, or staying in the realm of conventional war, as the Israelis did, and did marvelously in '73; it's just incredible. I mean, compare that to the French in 1940, and you know, it practically hits you between the eyes. But it's that change in psychology, from war fighting to constabulary, and the kinds of skills and trainings and restraints needed in one, but you're out of place in the other—that, to me, is the greatest change on the fly, and I'm afraid that's the one we're going to have to be faced with.

At any rate, I will now cease my comments and open the floor for discussion and comments for the next ten minutes. I'm going to go back and sit over with the first team over here, and we'll get our questions.

Questions? Comments?

Audience Member
I've been through all this business with asymmetrical warfare for a long time, and it strikes me that at times we define the word asymmetric a little too narrowly. I mean, would you agree, for example, that from 1805-1807, the corps d'armée system gave Napoleon an asymmetric advantage over his European opponents?

Professor Lowther
As I said, I'd like to talk about theory and not facts. So when you offer Napoleon's corps d'armée system, I have no idea what you're talking about.

Professor Lynn
I really regard asymmetrical as being a radical change between the level of warfare through methods, sizes of units, etc., but through different people. Consequently, an advantage in the field for one over another of a conventional army is not asymmetrical, and neither is one army that decides it's going to harass as opposed to attack—that isn't asymmetrical; that's a different choice of tactics within one symmetry, so to speak. Other comments?

Professor Lowther
I would say that there are probably two things relating Eastern and Western warfare, and that for quite some time, the West has maintained a technological superiority over the East. So therefore, much like the Hungarians when they were a part of the Imperial Armies, they tended to be skirmishers because they tended to be technologically less adept than the Austrians. Therefore, when the East is fighting the West, you're going to adapt; and when you adapt, if you're the weaker, you're going to tend to say, "Well, I'm not going to stand and get annihilated; so therefore, I'll find another way to fight."

Then also, there's a cultural aspect to it going back when there was parity, and in particular, when the Parthians and the Turks moved in from the step, moved into the Persian and Arab lands, you know, they were cavalry, they didn't stand and fight; they brought the Parthian shot to the civilized world, in that area. Historically, there is somewhat of a culture—I would say—of this style of warfare. Their crusaders would go before huge Arab armies, with 5,000 to 10,000 knights, and win some and lose some, but they believed that their heavy infantry could always win. So there has been a distinct cultural difference in preference.

Audience Member
I just think that your point, sir, is well taken on military theory. Any of you who happen to know about asymmetric warfare—it's embedded in most American history from 1754-1783. How do we know this? Because Mel Gibson tells us so.

[Laughter]

As a spiritual guide, he's certainly the source of great theory. But on a more serious note, I have a question for Dr. Sinisi. Why didn't the grand, total impact lesson of the Civil War not make it to Europe? You don't see that that much recognizable, in the Civil War, you have everything from positional and methodical to deep battle—God knows we have deep battle, long before [inaudible]. Why didn't it make it? Why didn't it make a transatlantic hop?

Dr. Sinisi
I'm tempted to say cultural arrogance is part of it, because Europeans did have many observers here. As Jay Luvaas pointed out many years ago, they did take something from our war; what they took, however, had very little to do with operations. They were very much into the technical aspect—they were interested in the types of ordnance, they were interested in the mines—but again, you get back to, I guess, was his comment, that it's just two mobs running around the wilderness, shooting at each other. So, I mean, why didn't they take anything from it? I don't know.

Audience Member
Malkin never said that. It's never showed up in any of his writings, and I actually have that in documentary form, in a letter, which I'll tell you about later. The most important thing, though, as to why the American Civil War never made it to Europe was that from 1864 to 1866 to 1870 the Europeans had actual experience in Europe to really go on.

Dr. Sinisi
Point well taken. Yeah.

Audience Member
And then, of course, where they spend their time, you know, kind of looking at what the next war's going to look like from 1875 to 1914, and by and large—and here's where anticipating the future is important; this is where I think everybody in Europe missed it—and that is the issue of scale. Everybody knew artillery was going to be lethal, but they didn't realize on what scale it was going to be— For example, the Germans realized that something major had happened when in the first five months of combat in 1914, they fired more artillery shells than they had during the entire Franco-Prussian War. It's the issue of scale that, very often, people will get wrong.

Dr. Sinisi
Yeah. I would agree with you. But on the other hand, I love that article by Michael Howard on Men Against Fire, where it makes it clear that the Europeans knew this was going to be an awful, bloody war. They had figured out what modern weapons would do—although, yes, short on scale—and then went ahead and said things like, "Maud"—you know, "Show me men who know how to die!" Oh, God, what a great way to lead an army! In which you were going to have to ante up to be a great power, and the ante-up was going to be giving away your young men's lives, to solve this terrible problem of getting over to the other side, in the context of modern weaponry.

I don't think they were as naïve as Americans like to think that the Europeans were.

Audience Member
But the expectation was that the war would have to be short, because the industrialized economy was considered to be so fragile that it could not withstand the constraints of a prolonged and bloody war.

Dr. Sinisi
Agreed. They were wrong on that part; they were right on the killing.

Audience Member
I've got a question. My name's Ted Thomas; I'm an instructor here on the post, on the leadership. It's to Mr. McGrath. You made a comment that in '73, that the Israelis were a modular unit with brigades. Is that correct?

John McGrath
Well, I was speaking a little prosaically, maybe.

Audience Member
Then you said after the war, they went to a more fixed division structure. Is that correct?

John McGrath
Their divisions in '73 were really just glorified task forces. After that, they made it into a formal type unit, permanent unit; then they even came up with a corps.

Audience Member
Well, my question reflects on our briefing this morning on the UA and the UEx and the UEy, because it sounds like what you're describing is they had more of a modular structure like we want to go to, and then they went back to a more fixed

structure, like we're coming from. Is that true, or is there some lessons we can learn there, or what?

John McGrath
Well, they had a brigade-based army. It would be like if we had just the brigades without anything above it. Even in our new modular army, we're going to have higher units above that they really didn't have that.

Audience Member
They've always been a brigade—modular brigade army. The divisions will always administer the [inaudible], and they still are, and that has to do with—

John McGrath
Well, before the—after 1973, their divisions were really just task forces that were—they had one regular division and they had a bunch of mobilization ones in reserve. For example, Adan's division, the headquarters was supposed to come from the Armored Corps headquarters, which is kind of like the Fort Knox of the Israeli Army, and when the war started, the Armored Force headquarters ended up spending most of its time processing recruits and making new units and stuff. So he had to make up his own headquarters; he took a couple of guys from there, and left most of them behind. So it wasn't a permanent organization, and similar things happened in the other divisions that were reserve organizations.

Professor Lynn
We are reaching, and in fact have somewhat passed the limit of our talk today, so to keep things on schedule, I'm going to cut it short now, and thank our presenters.

[Applause]

A "Red Team" Perspective on the Insurgency in Iraq

Colonel Derek J. Harvey - US Army

I'm glad to be here. I always like to talk about what we're doing in Iraq, because there are a lot of misperceptions. I should say right up front that these are my views. They do not necessarily reflect the views of the US Army nor the Joint Staff, et cetera. But take the ideas I'll present here, take the concepts, take the points, run with them, use them, integrate them into your thinking if you find them valuable.

As Dr. Yates said, I was in Iraq for a long time, and I continue to focus on it. I've been working Iraq off and on either in policy or on the intelligence side since 1989. When I went up to Iraq this last time—for the long duration—it was in the summer of 2003, to help Lieutenant General Ricardo Sanchez (US Army), and then Major General Barbara Fast (US Army), to try and figure out more about the enemy—who they are, what their capabilities are, what their vulnerabilities are, what's motivating them, what they're trying to do. As we moved along, the process of trying to understand the insurgency became more complicated and more complex.

I'm going to talk here mainly about the Sunni Arab phenomenon and not the Shi'a uprisings we had in 2004, or the continuing problems we have with some of the Shi'a extremist groups. Also, the focus here is not on Sunni religious extremists, and I'll tell you why, and also not on Abu Musab al-Zarqawi, and I'll also explain that too.

The key to supporting our policymakers and commanders is to take data and all the information that we collect in intelligence, through operations and other ways of collecting knowledge and information—taking that information and analyzing it, and then making some knowledge out of it that will increase our understanding, and then making from this knowledge something meaningful for our policy makers or commanders; for example, figuring out what the vulnerabilities are of the enemy, so that we can exploit them, and what the strengths are, so that we can mitigate those strengths, and advance our cause.

Now, there are some common misperceptions about the nature of the insurgency and other things that are going on in Iraq. I'm not going to go through each one of these (**Figure 1**), but I'd like you to read them, and think about them, as we go through this briefing. We've heard, for example, that there's only a small number of insurgents. Well, maybe I will disabuse you of that; maybe the definition of what "small" is will be different after this.

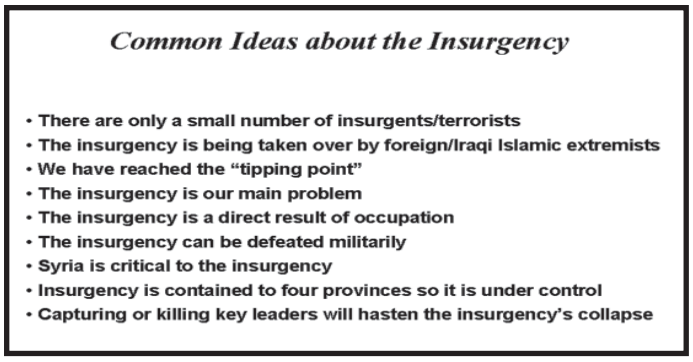

Figure 1

We've constantly heard that we've "reached a tipping point," or we've "broken the back of the insurgency," or we've heard things similar to "There's light at the end of the tunnel," which harkens back to Vietnam, if you will. Dates and things that are important for us—for example, getting through a transition to an Iraqi interim government—are not as important to them. Squashing the insurgents in Fallujah and eliminating the city as a sanctuary is a very important event for us, but maybe not as critical to them operationally and definitely not strategically. So these are just some things to think about as we go through this presentation.

Now, I'd like to begin with bounding the problem, because the insurgency in Iraq is largely a Sunni Arab phenomenon. We often hear that the insurgency is contained—and it is. We hear that we have things going well in 14 out of 18 provinces, and that's true. But what I'm highlighting here in the shaded grey areas (**Figure 2**) are in fact where you see the violence. And violence, in relation-

Figure 2

ship to the insurgency, is only one part of the problem. There's a whole other dynamic that's going on here that involves the political conditions, the building of organizations, infiltration, and expanding the political reach or the influence of those who are linked to the insurgency in the Sunni Arab resistance. And this dynamic goes beyond the shaded areas. But the violence really is bounded within the shaded areas.

Now when you say problems are contained and that things are going well in 14 out of 18 provinces, that's an absolute fact. But it's like saying things are going well in Arizona, except in Phoenix and Tucson. Baghdad and Mosul—two of Iraq's three largest cities, including the seat of government—dominate the country and are very important from an Information Operations [IO] perspective. This is where most of the population is, and it happens to be where the Sunni Arab population mainly resides—along these two corridors, one from Baghdad to Al Qaim, and from Baghdad north to Mosul. These corridors are along major rivers. So that's where the problem is. We also have other actors, of course, coming in from outside the country, but that orange area is where the problem really is— and it's a Sunni Arab phenomenon.

Now this is just an overview slide (**Figure 3**), to give you some highlights of what we're talking about. Now, when we went into Iraq, we flipped the social, economic, and political order on its head. We flipped it, and the Sunni Arabs—for the most part the old oligarchy, the old leadership, the clerics, tribal leaders, and others—are focused on regaining their power, influence, and authority in whatever form that is relevant for different groups that are there. Some Sunni groups are more religious in orientation, some are pure Ba'athists, some are just interested in power, and some are simply businessmen focused on economic matters and their place in the future of Iraq, economically and in terms of having influence.

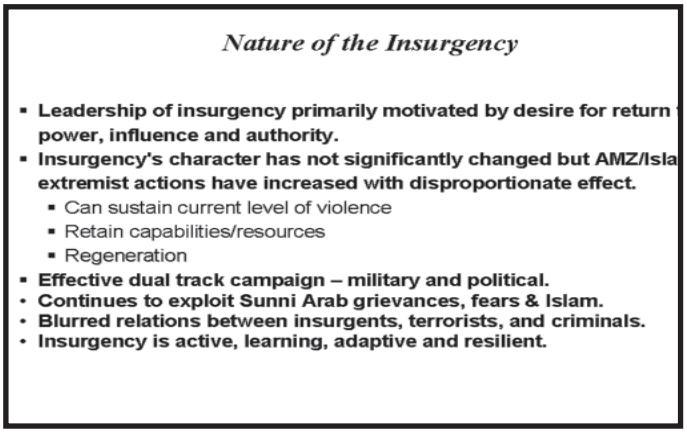

Figure 3

The character of the insurgency has not really changed much over the last two years. The insurgency has grown, it has evolved, but the fundamental character has not changed. What has changed is that we've seen a natural growth of the Zarqawi element—Al Qaeda in Iraq—which is what one would expect after almost two plus years of fighting in Iraq—we should expect that Al Qaeda would build a capability there over time.

But when one looks at the dynamics of attack metrics—who's involved, what the composition is of the different insurgent groups in the different towns, and how they collaborate and overlap—one sees that foreign fighters and Zarqawi remain a very small part of the actual numbers. But they have a disproportionate impact because of the types of attacks they conduct. The vehicle bombs, the suicide bombers, and suicide bombers wearing vests create mass casualties and have an IO impact that is significant—not only in the region, but also in Europe, and also affecting our will here at home—because when you look at the newspaper, you look at a magazine, the focus tends to be on these high-profile types of attacks.

But, the overwhelming majority of vehicle bombs are not conducted as suicide attacks. Non suicide vehicle bombs are the majority of the vehicle bombs. Overall, when one looks at all attacks, the overwhelming number of other attacks—95 percent or so—are conducted by Sunni Arab insurgents across a wide spectrum. These are not the Zarqawis nor indigenous religious extremists.

Now these insurgents can sustain the current level of violence for a long time. In two years and three months, we have not seen any real decrease in the insurgents' access to weapons and munitions. And they have more than enough recruits to regenerate their ranks. A retired general made a statement here last week that was picked up in the Washington press about coalition and Iraqi forces having killed, captured, and wounded over 50,000 insurgents since January '05. He misspoke; he really meant to say since January 2004—a time at which we were saying that there were only 5,000 dead-enders fighting in the insurgency. Since then, we have captured, killed, or wounded—according to the information that's been made public—over 50,000 insurgents, and it may be well beyond that. Those numbers, when you start to drill down, are still somewhat suspect. Regarding insurgent capabilities and resources—they have more than enough weapons, munitions. We continue to find arms cache after arms cache after arms cache, and one indicator that they have plenty of weapons and munitions is that the price of weapons doesn't seem to be going up, nor does it seem to be going up for munitions. There are localized shortages and distribution problems if you will, that cause some spikes in prices but overall the point is there are plenty of weapons.

They have more than enough of the right skill sets of their people—bomb makers and the like. So they seem to have capabilities to sustain this for some time.

Effective dual track campaign. For over two years, they have understood—when I say they, I mean a collaborative, cooperative group of Sunni Arab leaders that represent religious as well as Ba'athists and other elements—they have understood that the military violence is directed at establishing political conditions favorable to them in the long run. And they're leveraging fears and grievances quite adroitly.

Then one other thing—this is probably the most significant change we've seen—is that the overlap of collusion, of transactional relationships, if you will, between terrorists, Zarqawi, insurgents, and criminals seems to be becoming more and more blurred.

Now, I always think it's important to understand who the insurgents are and what motivates them (**Figure 4**). It is difficult to try to think and feel, and understand your opponent. I talked about power, influence, and authority, and it being flipped. Now think about what if your life, your future, the future of your grandchildren and your children, your place in society, your wealth, even your homes, your jobs, your careers were suddenly taken from you—if the whole world as you knew it was gone, and the future looked bleak because it looked like it was going to be dominated by outsiders, as well as by those that you had fought once before—say the SCIRI and the Badr Corps, along with Iran—and it looked like the Shi'a theocratic movement was in the ascendancy, linked to Jaafari and Dawah, the political group representing the Shi'a. So think about it from the perspective of many of the Sunnis—it does make a difference when you do that.

Figure 4

Political and economic sources of discontent. You know, the Sunnis have seen these Iraqi outsiders come in—first as part of the Iraqi Governing Council (IGC), then part of the Iraqi Interim Government, then the Iraqi Transitional Government—and it looks to the Sunnis like it's nonrepresentative and they see the "outsiders" as pawns of the Iranians or pawns of the West. And who represents the Sunnis in this process? From the Sunni Arab perspective, especially when you go back to May and June of 2003 when we had the general orders directing de-Ba'athification and demilitarization, a growing since of marginalization and fear of the future. The effect of these measures on the Sunni Arab community was significant as to how the Sunnis perceived their role in the future. And, of course, the many of the Sunnis view the people who are now in charge as corrupt and nonrepresentative.

Now, there's a conviction among many of the Sunnis—and this goes counter to prevailing wisdom—that Sunnis represent the majority in Iraq. They believe it. You talk to them, they believe it. Every census that they've ever read or seen says that they are the majority. Now, they link Sunni Kurds in that group too, and they see the Shi'a as a minority. Then, we came in, and we apportioned 65 percent or more positions in the IGC to those associated with the Shi'a faith. That's something to think about when you're looking at how this plays out. In fact, when you look at everything we've learned over the last two years and three months, the Shi'a probably are closer to 55 or 53 percent of the population, and not 65 percent.

I already mentioned de-Ba'athification. It resonates to them as de-Sunnification—that's just how they look at it. This has an impact. We can rationalize what we did but the effect on the Sunni Arab community is real…and what matters is their perception.

Then there's economic deprivation. Relatively, they look at their life as being worse off—unemployment in many areas is much worse. Those of you from the 82nd and other units that have been in Ramadi, et cetera, where you have unemployment at 70, 80 percent. We might have official numbers that talk 25, 28 percent unemployment, but what is the real unemployment? It is often much higher than the official numbers, and this has disproportionately impacted the Sunni areas.

Then you look at things like the Sunnis' perceptions of distribution of electricity and benefits, and where the financing and the construction projects are going. It looks to many of the Sunnis like it's disproportionately favoring Kurds and the Shi'a south, and not benefiting any of the Sunnis. Again, this feeds into a Sunni sense of victimization.

If you go to the coffee shops, the Sunnis believe that Basra has 24 hours of power a day, and they, the Sunnis, are getting 7, and this just feeds into this sense of victimization, which motivates people at the grassroots level. It doesn't matter whether it's true or not. There are people that know how to exploit those types of themes, and because there's a predisposition to believing them the insurgent leaders can more effectively exploit these themes.

Then, of course, you all know about the anger about our actions, and anti-Western beliefs. We can't understate the 30 years of xenophobia and anti-Western attitudes that were created because of Saddam. The xenophobia and anti-Western attitudes provide fertile ground for what is in effect an enemy IO campaign.

Then, lastly, religious nationalism. For a long time, Saddam and the Ba'ath Party focused on building up religious credentials. The insurgents of all stripes – hard corps Ba'athists to religious nationalists decided early on they were going to use the mosque and religious themes to fight us, and they've been doing that quite well.

So our challenge here, as one looks at the environment is, why are people on the fence? (**Figure 5**) Well, first of all, I'm only talking here about the Sunni Arab community. Our challenge is to make this group at the bottom of the chart larger (those supporting the Iraqi Government) and decrease the number of those Iraqis who are on the fence. And we need to contain, kill, co-opt or coerce those that are insurgents, and limit their effectiveness.

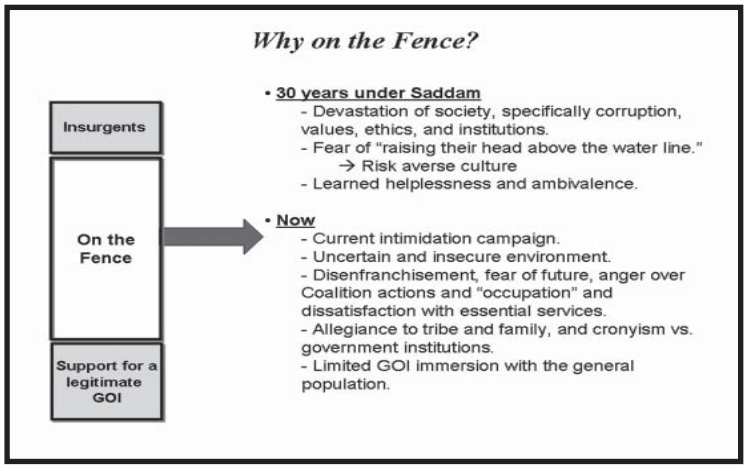

Figure 5

But we underestimated the impact of 30 years of Saddam's rule on that society, as far as undercutting basic values and the willingness of people to step up and try to make a change.

Also, we in the United States think of individuals and individual guilt and accountability. In much of Arab society in countries from Iraq to Morocco, there is very much a sense of communal or family or tribal guilt and accountability for the actions of individuals. So in Morocco, when General Oufkir tried a coup against King Hassan in the early 1970s and it failed, he died, and his daughter, who was just an infant, spent almost three decades of her life in prison, an extreme example of communal or family guilt for the actions of individuals. It is not an aberration when you look at that phenomenon in Iraqi society.

When one looks at what Saddam did to punish people when there were suspicions of treachery, or when some individuals just did not play ball with extortion or corruption schemes, or did not give what was asked to Uday, his son, the people who resisted that paid a price. Over time, this creates an atmosphere and a psychological outlook that keeps one from raising their head above the parapet, if you will.

Another factor is that we have an insurgent intimidation campaign that's very effective. Then you throw in the other factors of society that are highlighted there, and it's no wonder that there are many Sunni Arabs that are fence-sitters. So our challenge is to change that dynamic. The insurgents are working in their own way with intimidation, using tribal and family and cultural issues, and religion to keep people on the fence or encourage them to support the insurgents, and we're trying to work with the Iraqis and the government to reduce the number of insurgents and to increase the number of supporters for the government. We're using the military to this end, but we're more or less in a stalemate, because neither side can win militarily. But we're using other means as well as the military to achieve our goals.

I have seen Sunday news show hosts as the question, "So who are we fighting? Who are the bad guys?"(**Figure 6**) Well, there's a circle in the middle there representing former regime types, the old oligarchy—not necessarily Ba'athists by ideology, but associated with the old regime, beneficiaries of the old regime—and they're leveraging what we call the POIs and the rest of that opaque circle there—the unemployed, the angry. (POIs are short for Pissed Off Iraqis, okay?) [Laughter] So they leverage that, and they're very good at it, because they know their own human terrain better than we do.

Then there are some other groups at large here. For example, there's a smaller number of what we would call Iraqi Islamic extremists. This is something that if you're a soldier on the ground, you're in a battalion or brigade, you're civil

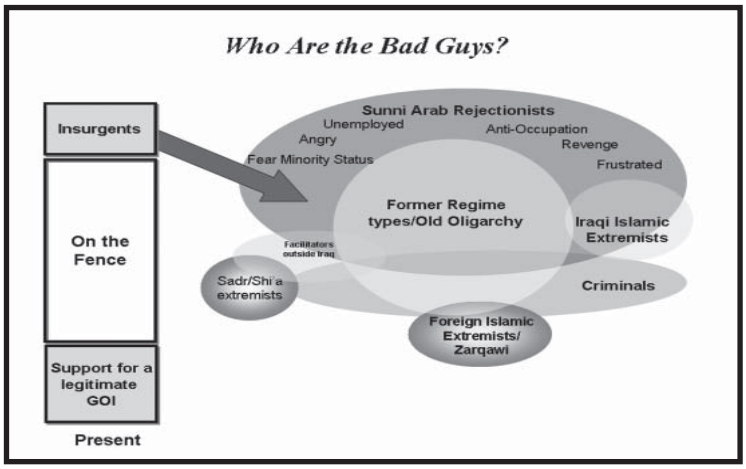

Figure 6

affairs, and you're fighting someone who self-identifies as a mujahideen—a fighter—fighting the Jihad, wearing the dishdash, and is being motivated and exhorted by religious tracts, some even written by Izzat al-Douri, you get an impression that you're fighting religious extremism. But most of the guys in that larger circle are just generic religious nationalists, or from my point of view many are not even very religious. Those that really believe, say, in Salafism, or Takfiris or Wahhabis, are really a much smaller number—a very small number—There really are not many who are clamoring for an Islamic state for the Sunni Arab community. In fact, the religious extremists do not really have any reach in the broader Sunni Arab community, because it's not reflective of what that community really wants.

Then there is smaller number of others that are involved in violence—foreign Islamic extremists, like Zarqawi; I talked a little bit about him already. Just remember that this is a smaller number—very small—of people who are nevertheless very effective, and very good at the use of IO. And our own focus on Zarqawi has enlarged his caricature, if you will—made him more important than he really is, in some ways.

I would say that the anxiety of the Iraqis has gone up, not so much because of the violence, but because of the randomness of the violence. There was probably more violence—if you talk to them—in the days of Saddam; more people disappearing or getting killed. But many of the Iraqi people could generally associate a cause and effect during the Saddam era. For example, as I was saying, if someone disappeared it was generally thought they were not playing ball with the regime in criminality, or maybe there was anti-regime talk or suspicions that brought the secret police to their door.

That's the dynamic at large, if you will, as simple as one can make it. In the insurgency, you have Sunni Arabs, and then you have Islamic extremists, along with Zarqawi—basically, two groups. So, this slide (**Figure 7**) summarizes that, and I can't emphasize enough that those from the old regime, or associates of it, who are driving the insurgency aren't necessarily driven by Ba'athism. That's not a driving force. It's a multigroup insurgency; it's relying heavily on these personal relationships—professional, business, tribal and family—because everything in this society is really fundamentally about relationships and trust factors. These

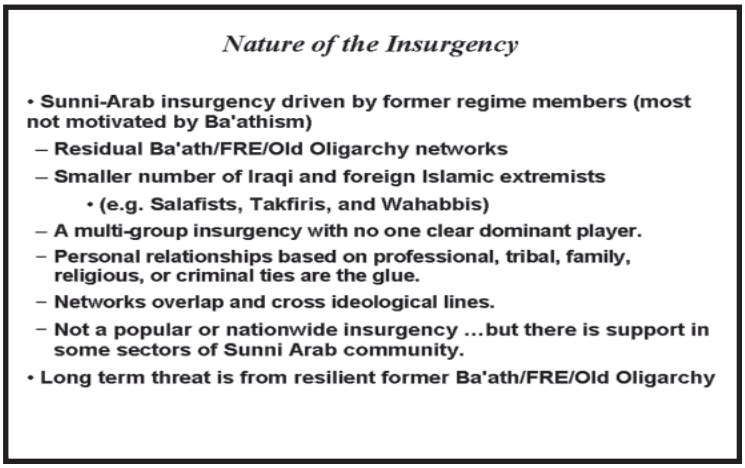

Figure 7

networks in this community overlap, cross ideological lines, but we're right when we say to the press that this is not a popular insurgency—it is a resistance. It's not nationally popular insurgency because it's not in the Kurdish area, and it's not in the Shi'a south. The insurgency is based on a minority of a minority in the Sunni Arab community, with a large number of fence sitters, waiting to see which way the wind really is going to blow. The long-term threat really is not Zarqawi or religious extremists, but these former regime types and their friends who understand how to network, infiltrate, coerce, co-opt, and undermine the emerging Iraqi institutions, so that they can eventually subvert them, somewhere down the line.

So I've talked about relationships, and they are fundamental to understanding what's going on (**Figure 8**). You have to look at these relationships and understand them to be an effective analyst looking at what's going on in Ramadi or Samarra. You have to understand the nature of these relationships and how they influence the power structure in each of those places.

Now, if you think about it just from a comparative perspective, it's like trying to understand Cedar Rapids or Kansas City, politically. Who are the movers and

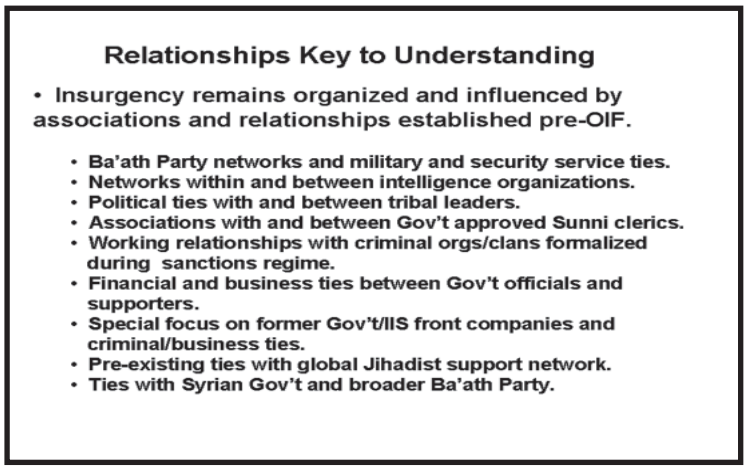

Figure 8

the shakers? Who are they related to? Businessmen, politicians, religious leaders—they have their own "tribes," if you will. But you have to change paradigms from ours to theirs, and then understand the cultural subtext of all of this. Lets talk about pre-existing ties between the Saddam regime and the global Jihadist network which I find to be very important. If Saddam's regime was recruiting and training foreign Jihadists in 2001 and 2002—and the Regime had certain elements of the security forces and intelligence service responsible for doing just that, and many of these jihadists were going back to their countries afterwards while some stayed in Iraq—I suggest that those networks, those relationships continue to inform and shape the contours of the insurgency, and how the Jihadist transregional network continues to support in some ways, the native insurgency. You can have former Ba'athist secular-oriented bomb makers, in vehicle bomb-making factories building these things, large vehicle bombs, and then linking them up with folks from the Zarqawi network. For the insurgents, the vehicle bomb and suicide driver is just considered a tool or another weapon system.

So, in order to understand some of these relationships, you look at a situation and you see something like this: the police chief in town was one of these trainers of the foreign Jihadists in 2002; his cousin is in the AMZ network; the mayor was a senior Ba'athist and was the boss of the trainer prewar; and they're all from the same local tribe. You look at these relationships, and you build intelligence in bits and pieces, and you start to build the network to show how this is working.

But a key is that analysts have to go back and learn about the history and past relationships that in some ways inform us about the contours of what we are facing today.

These are just some of the relationships or trust networks that, when you're looking at this society, you have to factor in—peer mates from school, mosque relationships, village et cetera (**Figure 9**).

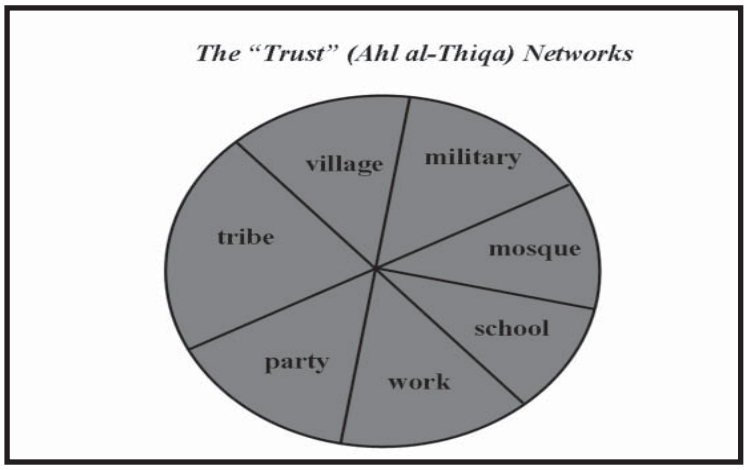

Figure 9

When Saddam staffed his inner security, for example, he drew on key loyal tribes. If I look at who's really involved in the insurgency, and who staffed the key positions in the security services that were the most loyal to the regime, one sees that the regime relied on about six tribes and 18 clans. So who are they? Where are they from? What towns? Which people are we talking about? At least it gives you a direction and azimuth, if you will, to lead you to better understanding and perhaps some insights on current networks (**Figure 10**).

Not counting the Republican guard, and not counting the regular army, and not counting the 1.1 million people of the Ba'ath Party, if one just looked at this

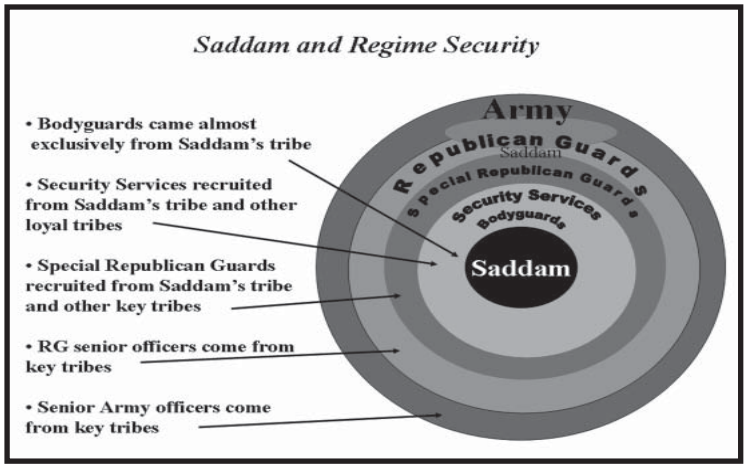

Figure 10

recruiting base—special Republican guard, military bureau, presidential security, Saddam-Fedayeen, on down the line—it's about 120,000 people. These provided a key element of support to the old regime and we still see remnants from these organizations providing a base of support to the insurgency. Lets not forget that these same organizations were staffed with people from loyal tribes (**Figure 11**).

Figure 11

For the most part, the people from these organizations don't have a future. I'll give you two examples here. Ba'ath Party militias—there was one battalion in every province. These were the headhunters, these were the enforcers, these were the guys that threw Shi'a off of the tops of buildings to their deaths in concrete parking lots. These guys have no future. Saddam-Fedayeen, likewise. Both of these organizations were created in the mid-1990s to focus on regime survival, and they had aspects of paramilitary capabilities, and they were designed for regime survival—to be a counter-coup force, to help one put down an uprising, if the Kurds had another uprising, or if the Shi'a had another uprising. They took lessons from 1991 and said, "What do we need to do differently?"

The regime was focused on survival. It was worried about uprisings and losing control. It was in that environment that many measures were implemented. So, for example, if you were from the directorate of general security, you put 18 safe houses into a large city and you grab a few mosques to use covertly too. Then you store weapons there, and you put in a hundred base documents that will give you the ability to change identification or forge documents. Basically, you put in equipment and capabilities so that you can operate covertly in the event you lose control, or in the event that there is a contested environment. The regime did these kinds of things over a decade to put a capability in place. They also created city defense plans while maintaining security and compartmentalizing activities.

How they did this under the old regime and what they did is important to understanding what's going on today. And if you don't understand it, you're not going to understand how to attack it today, because you're going to see something that you're going to misinterpret. These safe houses, the city defense plans—those who were involved in the city defense plans under the old regime quite often have overlapped with those that we identify as being in the current insurgency.

So if one looks at the Ba'ath Party today with its one million members, these relationships—the model of behavior, the knowledge of how to work clandestinely in your own community, how to operate in an environment covertly—are all important. These relationships have continued in many cases to this day. Some of the former regime have been slowly trying to rebuild these networks and relationships over these last two years and three months (**Figure 12**).

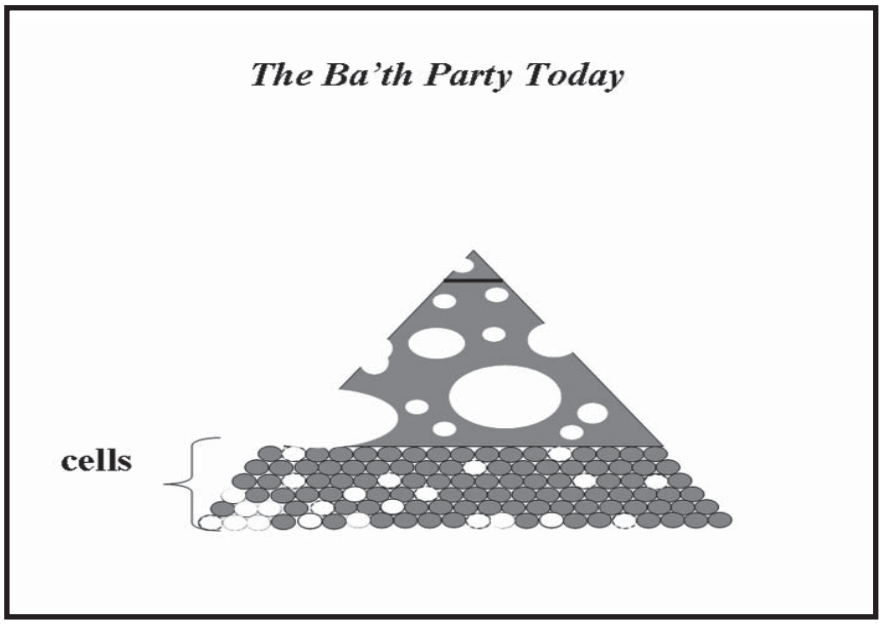

Figure 12

Now this slide (**Figure 13**) lists some people that are still key insurgents and most were in the Top 55 Black List. Except for Sabawi who was turned over by Syria, these guys are still on the loose. What's interesting about them is that they

Figure 13

were all involved in the security services. We easily rolled up guys from foreign ministry, doctors, and others. But the guys that really knew the business, had the trade craft down, for the most part, they're still running around, and I believe that they are involved in the insurgency. One could talk at great length about the networks and how they're involved, but I can't do that here.

Besides these relationships in the Ba'ath Party, one can also go and look at other things (**Figure 14**). Over the decade of the 1990s, for example, I mentioned the building of covert capabilities—stay behind, support to the military forces,

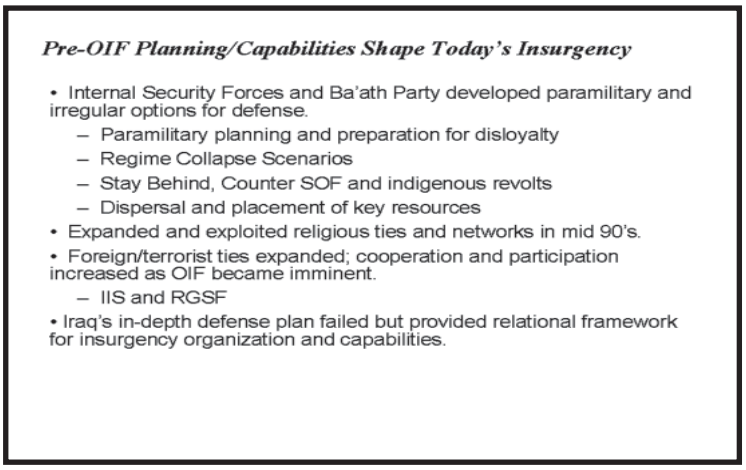

Figure 14

paramilitary training, dispersal capabilities—that could be employed in the event of a threat of regime collapse. These are things that were done for regime survival, and these things were accelerated in the late 1990s, as it looked like tensions were increasing, and they really accelerated in 2002.

Starting somewhat before the 1990s, they also expanded ties to religious organizations, using groups like what is today the Muslim Ulema Council—previously, it was the Society of Islamic Scholars—and others, to expand relationships, just so they could be aware of what the threat was, because they thought an Islamic-driven Jihadist coup or threat might be something they needed to worry about. So they decided they needed to penetrate and understand the broader Muslim brotherhood community, as well as the domestic religious threat. So the Regime expanded its infiltration of these groups. Later the Regime decided to start using these relationships with transregional terrorists to their advantage so they started to work with the Sudanese Islamic Army, the Egyptian Islamic Jihad, and others, in addition to training some of these people in their own country. So these ties increased in the 1990s, and you had the Iraqi Intelligence Services (IIS) and the Republican Special Forces involved in this extensive training. It's probably the most unappreciated fact that we underestimated the extent and breadth of this relationship, as we focused on WMD and other things.

This relationship continues to remain a very unappreciated and unreported element of the insurgency, and I believe that these past relationships inform and shape the current insurgency. Some people look at the past relationships as being just history. But I suggest to you that if you know that people from the Iraqi Intelligence Service were involved in training and had relationships with the Sudanese Islamic Army, and they had these relationships for over a decade, then it is likely that those relationships and networks are still manifesting themselves today,. The Iraqis that are likely still involved in this are no longer IIS after the regime collapse, but they're the same individuals.

In the prewar period, you had car dealerships and stolen car rings bringing stolen vehicles in from Europe through ports of entry in Syria or in Jordan, in order to raise money tied into international crime, and to make a profit. Some of these vehicles also went into the Gulf. This arrangement transitioned after OIF into a means to make money for the insurgency, to provide vehicles for vehicle bombs, as well as providing assets like mechanics and machine shops that you can use to make your vehicle bombs. These pre-war relationships, networks and patterns morphed over time so you need to understand the past to understand the future. I'm not saying there was a prewar plan for an insurgency; I'm just relating to you that there are historical relationships, capabilities and patterns that provided a framework for today's insurgency and makes it very hard for us to root it out.

I'll touch on Islam here again (**Figure 15**). We have had senior analysts in Iraq say a Ba'athist can't be a Jihadist because Ba'athists are secular. I just suggest to you that people can have multiple identities, and that many Ba'athists were and are very religious, like Izzat al-Douri. There are others, like Saddam, who decided to exploit religion in order to bolster weakening foundations of the regime. We have noted that as sanctions and the UN role concerning Iraq advanced, the regime leveraged Islam even more. Beginning in 1994, there was the revival campaign, in which Saddam required Ba'athists to go through training on the Qur'an for six weeks each year. It doesn't sound to me like a secular regime—it was bolstering its foundations by using Islam.

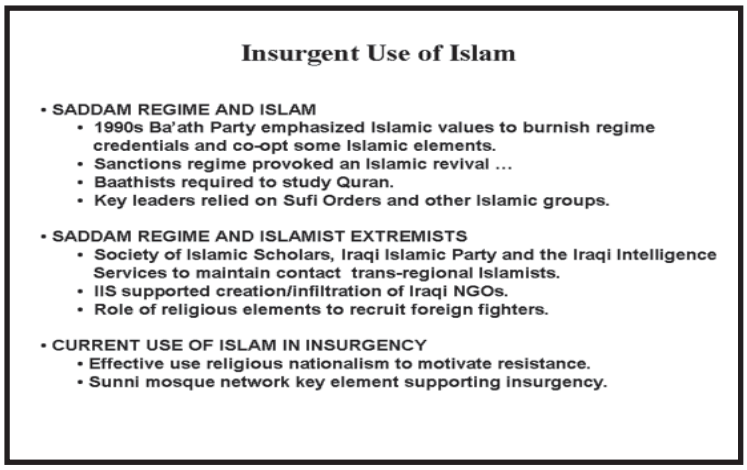

Figure 15

I want to say something about the Society of Islamic Scholars, the Iraqi Islamic Party (IIP), and the IIS, because those three entities were used in some ways by the old regime in order to have these connections and relationships with the broader regional Muslim Brotherhood community. It's those same entities that, in the prewar period, helped recruit foreign fighters and Jihadists, especially as we walked up to the beginning of OIF. The foreign fighters and Jihadists were brought into the country, they were trained, they were linked up with the mosques, and given housing through these organizations. Since the war, the IIP has been a member of the Iraqi Governing Council and continues to play a legitimate political role. The Society of Islamic Scholars is now the Muslim Ulema Council and has continued to play both sides of the fence—a political role, while being involved, in some ways, in the violent insurgency. We have had a heavy use of the mosques and religion to underpin this insurgency.

Now I'll just talk here a little bit about some of the Islamists (**Figure 16**), because there are very few true Salafists. We consistently label someone like

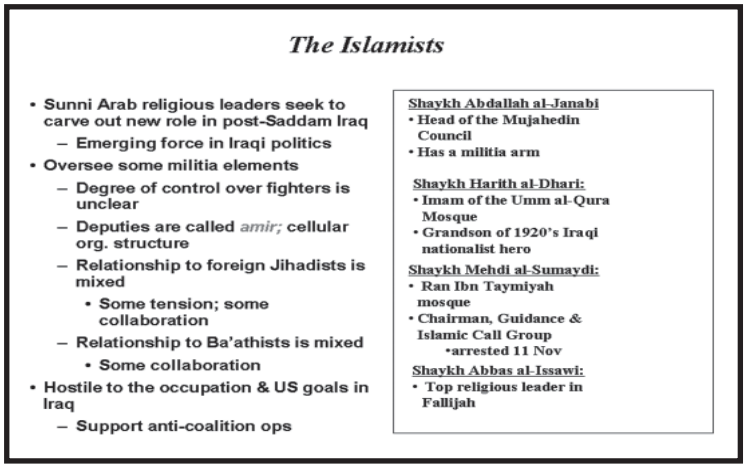

Figure 16

Sheikh from Fallujah as a Salafist extremist. I suggest that, when you give a label to a group or a person, it carries a lot of baggage, and it will cause policy makers and commanders to shape their response accordingly. So if you label a sheik as Salafist extremist, you're putting him in a box of people with whom you really don't think you can negotiate or deal. But who is this sheik? He's from Fallujah; he's led insurgent groups there. He imposed Islamic Law there in the summer of 2004. That's further evidence that he's an extremist—involved in violence, linked to bad guys, and imposing Islamic Law. But he's not a Salafist—he's a Sufi. He's not an extremist—he might use violence as an extremist means, but his goals are not extremist, because I believe that he's more interested in power and authority and protecting his people; he's interested in advancing his people's rights at the expense of the Shi'a, because he really doesn't see the Shi'a as equal at all; he sees himself in the dominant role.

As a matter of fact, it was when I was talking with him that a light bulb went on: it reminded me of talking to someone probably in the 1950s in Mississippi who was a KKK member. He had a sense of entitlement and rationalized everything, and did not see the world changing. Well, that's this sheik. But he's not an extremist; he's not seeking a caliphate. I just think we have to be careful about labels, because we do want to put labels on things.

Regarding leadership, there is no unified leadership of the insurgency (**Figure 17**). We, as Americans, are looking for a hierarchy; we want to see a line in a wire diagram. What we're fighting against, however, is very Arab in context. It's culturally applicable. It's effective. They're collaborating, and they're cooperating across multiple networks. They know each other—the networks are built upon past relationships. They're leveraging these things—family and tribe. They're building legitimate political parties, and they're infiltrating others. And they have transnational access to sanctuary and financing—that's key. Most people focus on the role of Syria, but there are other dynamics too.

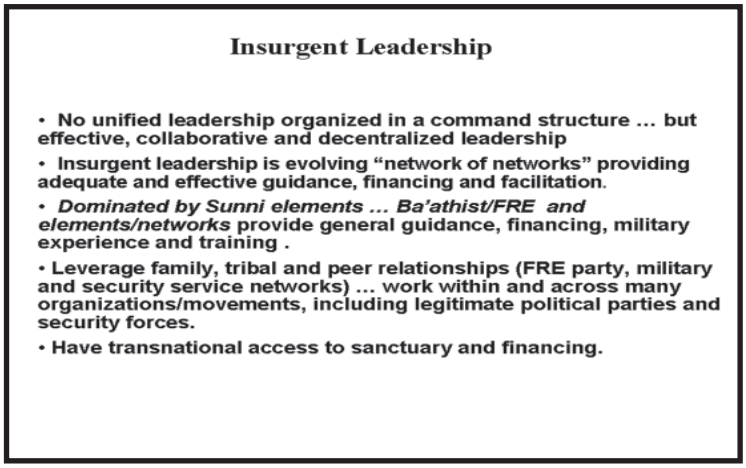

Figure 17

So in early 2003, I said, if I could draw the insurgent relationships, I would like to have a 3-D, multidimensional, cross-cutting way of showing the groups involved. But I can't, because I'm not that good with PowerPoint. [Laughter] But this slide is good enough (**Figure 18**). We have three tiers here—strategic, operational, and tactical. It's not cut and dried like that; there's some bleeding through. But you have tribal leaders and local leaders—very important. Still, we have had leaders early on say, "We are not going to deal with tribes, because they're a vestige of the past, and we're building a new Iraq." In saying that, they were discounting 2000 years of history. The tribes are involved in many aspects of the insurgency. One can talk about the importance of the different tribes or a clan from Samarra, or the larger confederations. Or you can look at the dynamics of groups wrestling for control of Ramadi. Tribal and cultural issues are very important dynamics, and you've got to know these people, and what drives them.

You can't get that understanding when you rotate analysts through Iraq every six months or a year because its incredibly complex and difficult human terrain to analyze. They can't get this cultural-level appreciation—understanding

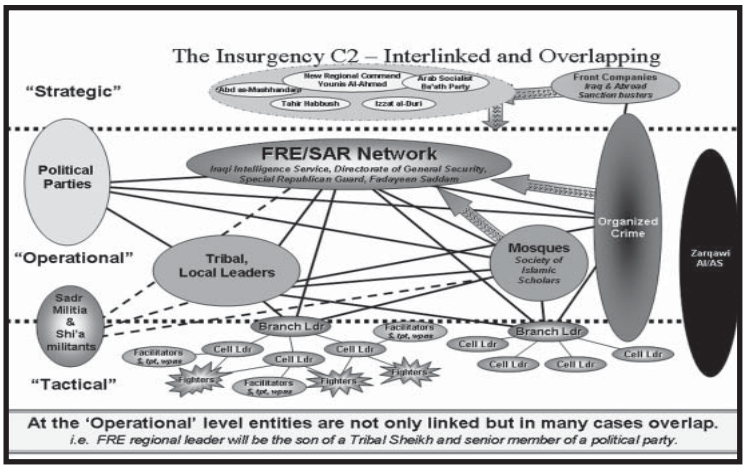

Figure 18

the language or the perceptions that manifest themselves in these people when they look at their own world. And it's their world we're talking about, and we're coming at it from a very skewed perspective. Our prism is way off-center on this. Excuse me for editorializing. The role of mosques and religious organizations – endowments, religious associations like the Muslim Ulema Council are very important. It is possible for a person to have multiple identities but we too easily label people. We will label a religious cleric an extremist, that is simple, but this "extremist" is not an "extremist;" is from a traditional religious family and a very important tribe; had family members in the Intelligence Service; is a former Ba'athist himself and maintains close ties to former senior Ba'athists. Who and what is he? My point is that these people can have multiple identities. Our desire for simplicity and labeling in some ways undermines our ability to really understand this difficult and complex insurgency.

Political parties—not just the parties that are underground—the Ba'ath Party, the New Iraqi Ba'ath Party, or Party of Return—but others that are being infiltrated or co-opted, or just set up as stalking horses on their own.

There are former regime elements that are still free—the security service types. Also, organized crime permeates this whole thing, because the higher you moved up in the regime, the more likely you were involved in party, security, and organized crime—it was a kleptocracy.

Then, you have some other overlaying activities here. So you can have multiple branch leaders from different groups—Syrial Jihad, Iraqi Islamic Army, et cetera—meeting in a mosque, and talking, and saying, "What are we going to do next?" and their boss will say, "We're going to keep doing what we doing until we hear from Higher." Well, who's Higher?

There's an inference here that this is some sort of a collaborative, cooperative network—a network of networks is a term that some use, and I think Admiral Cebrowski might be pleased when he looks at this. [Laughter]

I'll move forward here—some other issues. You have outside influences providing funding from other countries, you've got individuals providing money, but my focus here is on that block on the top of the slide (**Figure 19**), because the key here is to figure out where we need to drive the wedge between those. On the one hand we can engage, co-opt, and coerce into coming into the system, in a critical mass, that enables you to take the wind out of the sails of the insurgency, and those. On the other hand, that you need to identify with specificity that you can't make a deal with, that you need to just contain, kill, capture, or neutralize them by putting them in exile—the extremists, Saddam loyalists, maybe the war criminals.

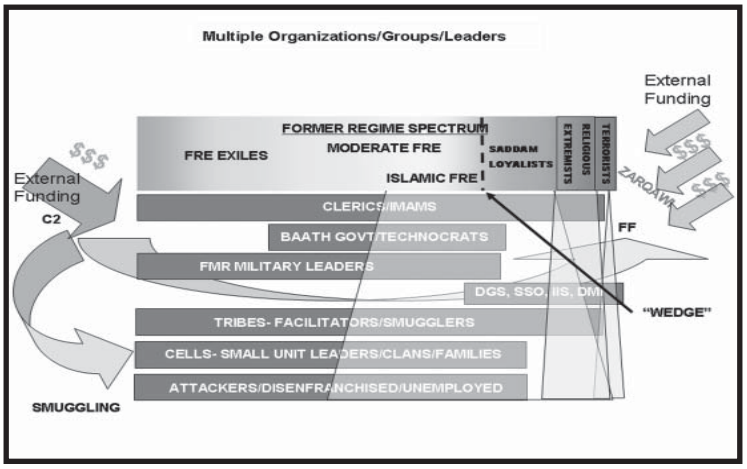

Figure 19

What is on the menu for reconciliation? Let's think this through, because if you don't get at the political solutions here, this can go on and on. So, ultimately, you have to figure out, What's the deal? What is the deal? How do you bring them in? Then how do you make it acceptable to the Shi'a, who have an attitude of—in some circles—"never again," hearkening back to the Jewish experience after World War II; these Shi's don't ever want to be dominated by the Sunnis again; they are deathly afraid of this.

Another cultural aspect is, in this society, the idea of compromise—I challenge you to find the word compromise in your Arabic dictionary, okay? [Laughter] There are words that might come close to it. But in the cultural context, you're either a winner or you're a loser, and when you're a loser, you're a loser for a long

time. That impacts their thinking. So how do you put together a menu, a package that addresses driving that wedge?

I mentioned the dual track earlier (**Figure 20**), and the first of the two tracks is the military campaign, or violence. But this military campaign, my personal view is, it's about 25 or 30 percent of their effort. That's all. And that 25 or 30 percent gets most of our attention, and we're drawn—just like we're drawn to Zarqawi, because of the type of violence—we're also drawn to the violence, and we're

Figure 20

drawn like moths to a flame, okay, and we're missing what's going on in the rest of the room.

But they do have a military campaign, and it's sustaining levels of violence adequate to achieve their political conditions. The war is sustaining, according to the Washington Institute of Near East Policy (because I'm not going to go into our numbers), nearly 500 attacks a week. That computes to 70-75 attacks a day, according to the way they're tracking it. So, if you go to last year, to February 2004, Brigadier General Mark Kimmet was saying we were down to 20-22 attacks a day. We were very worried in February of 2004; yet we're substantially above that level of attacks today, and we've had elections on January 30 of this year, and we're moving forward through a constitutional process.

I just ask this question: How many attacks are enough, and what kinds of attacks do they have to be, to set the conditions for their success? Just something to think about. When one thinks about a vehicle bomb, and one uses metrics that are based upon battle damage, we need to think about the way we use metrics. A vehicle bomb went off, and there were 26 killed and 60 wounded, and 12 cars were

burned, and there was damage to a house, and that's what gets reported. I suggest to you that the metric we should be trying to measure is something different—it concerns the effect. What is the effect on the local police? What's the effect on the psychology and atmospherics in the community? How does that effect enable coercion or infiltration? How does that effect expand the insurgents' freedom of maneuver or movement? How does that effect undermine investment? How does that effect undermine the activity of NGOs?

Those are the effects that the insurgents are after, and those effects are hard to measure, even though we want to be able to quantify things. It's an American tradition—we want measurables—so we're going to measure what we can and report it, even if it doesn't really tell us what we need to know. Measuring the effects of a bombing gets subjective, it's very hard to do, but those are the effects you need to be concerned about, because the insurgents are maintaining a nonpermissive environment with this violence. For example, reconstruction costs are being enhanced—30 percent, according to the press—because of security concerns.

Electricity fluctuates. How do you create jobs when you don't have enough electricity to keep the concrete factory going? Or you can't keep your shop going? What does the lack of electricity in the heat of the summer in August do to morale? What does that do to support for the ITG, and what does it do for tolerance of our presence?

These are things we need to think about. The enemy certainly does, because they look at this as a long-term effort. Early on, they said that they could exhaust us. It might take them five, seven years, but they could exhaust us, because we would not have the national will to sustain the course.

Then, there's the insurgents' campaign against collaborators, the assassination campaign, co-option, infiltration—it's been ongoing, and they're building capabilities into other parts of the country, not just the Sunni Arab area. So there's a military campaign.

Now just to talk a little bit about IEDs—the number one killer for Americans in Iraq, and it maims even more Americans (**Figure 21**). VBIEDS tend to be more directed at trying to breech our bases, maybe driving into a convoy, but more directed at Iraqi and ISF at this point in time. Also, small-arms fire, standoff attacks.

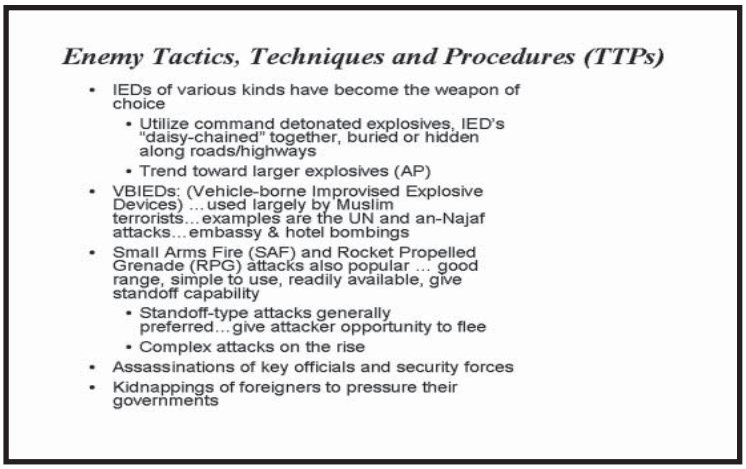

Figure 21

But most of this is focused on what? Survival by them. They don't want to engage our full combat power, but they want to inflict violence and create this atmosphere of an insecure, unstable environment. I'm going to click through, just to give you an idea of what an IED sort of looks like here, taken from a Jihadist site (**Figures 22 through 28**).

So that's what we're facing, and there's a give-and-take—we make improvements technologically; they come back and make adjustments themselves. The only way to really get after this is to get after the root causes—that's one, motivation; two, go after the networks that support it. Point defense is not the long-term solution; it can mitigate the violence, but you need to get at it in a different way.

Figure 22

Figure 23

Figure 24

Figure 25

Figure 26

Figure 27

Figure 28

Kidnappings, mass casualties—they contribute to that atmosphere of an unstable environment (**Figure 29**). It doesn't matter if we can go wherever we want, if we can get in an armored Humvee and drive wherever we want. Where can that NGO go? Where can that contractor go? Where can that Iraqi go? And what does the international community think about that? How does that undermine investment, for example? If you look at the metrics for numbers and types of attacks, the trend lines are for the most part negative for us.

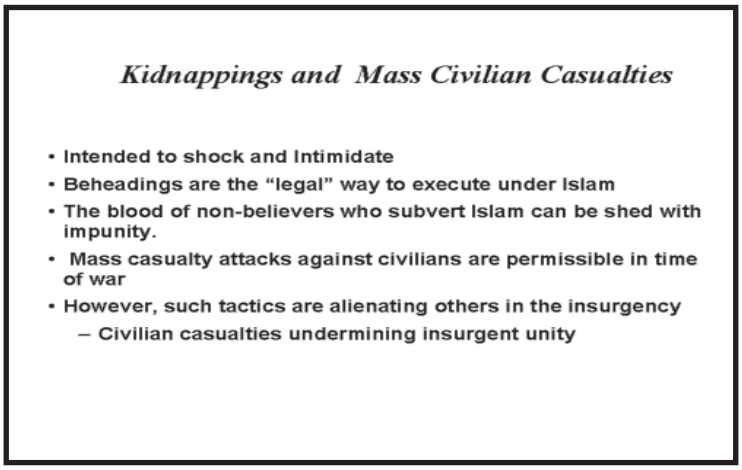

Figure 29

The numbers game. Well, most things are based upon SIGACTs, which only collect and report a certain part of the data (**Figure 30**). It doesn't collect everything that's going on against the Iraqis. So relying on just our metrics of attack data can be skewed.

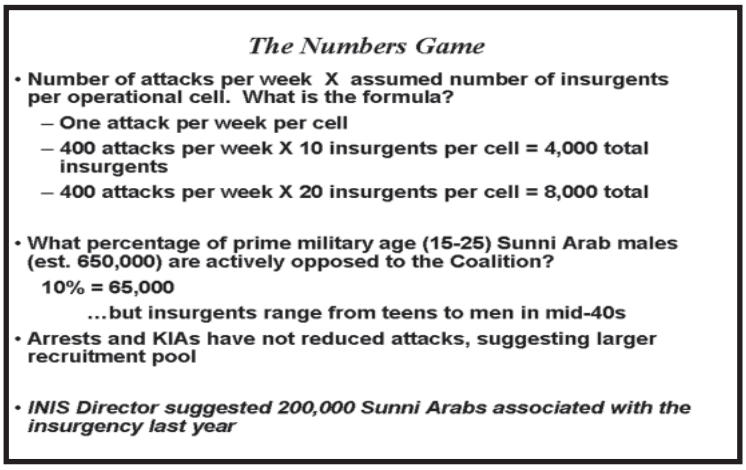

Figure 30

Politically, what are they doing? They are building entities that play both sides. They're penetrating existing entities. In some cases, we identify it; in some cases, we don't identify. We don't know what we don't know, in this regard. They are trying to undermine the regime, make it Weimar-like, so they can subvert it. They are keeping the Sunni Arab heartland supportive and committed. They have tacit support, at least (**Figure 31**).

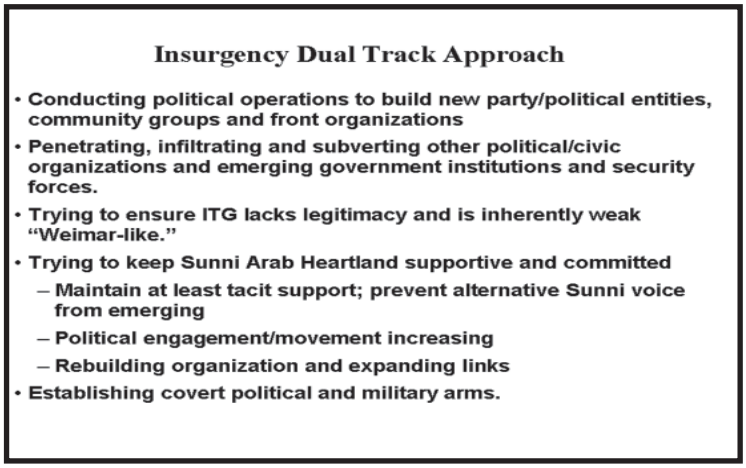

Figure 31

A couple of other things going on here, but I think that they're doing okay in preventing alternative leadership from emerging . For example, if you're a Governor in Al Anbar Province and you start to play too much of a game that's cooperative with the coalition. So, you get your five sons kidnapped, you resign, and someone else comes in and plays ball a little bit differently.

That's the dynamic. That's intimidation. It's very real. These are the types of people who will kidnap your daughter, cut off her fingers, and send them to you. It's a criminal enterprise. It's Mafia-like—it's cruel, but effective.

So how are they doing (**Figure 32**)? They are a force in that Sunni area, that area that I showed you on the map. They are to a degree preventing alternative voices. They do have effective IO. Most important, with most resistance movements they are maintaining their own viability. We cannot defeat them militarily at this point. They have freedom of movement, probably better intelligence than us, and they're not defeated.

A couple concluding things here. We have an excellent strategy. It is a great strategy. In execution, it has to be DIME—Diplomatic, Information, Military, and Economic—but execution in some domains is not where it should be. We've had opportunities before, but we haven't seized them very well because of a lack of ability in some of these other lines of operation. Military options are only part of

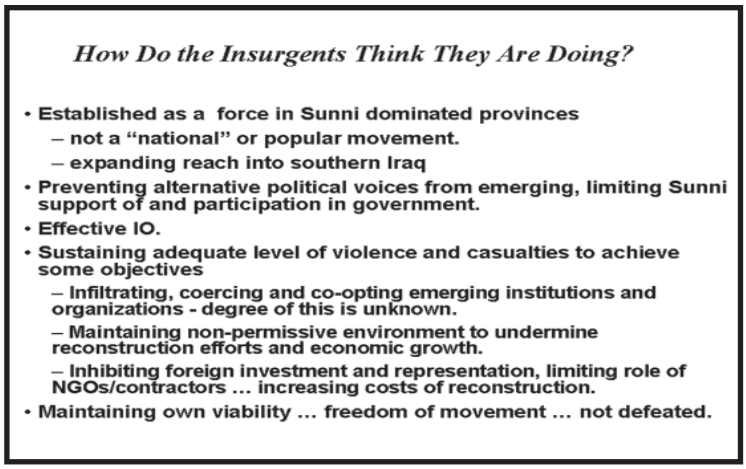

Figure 32

the answer. Political processes and decisions are key: the constitutional process, elections, hopefully unifying the Sunni vote, and hopefully some reconciliation, so you can bring in more of the critical mass of the traditional leaders (**Figure 33**).

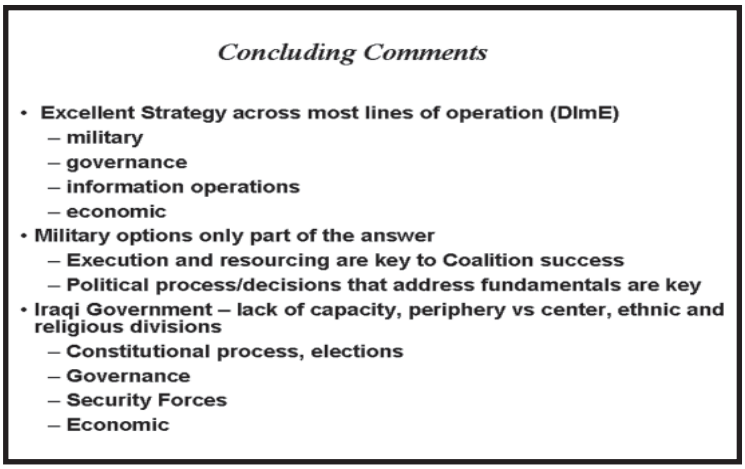

Figure 33

Iraqi government truly lacks capacity, even today. How do you get a well-rooted government with capacity, when you've toppled a regime that didn't have much ruling authority anyway, except through the barrel of a gun? You replace it with an IGC of ex-patriots, then an IIG, and then an ITG, and you rotate through. The center never really builds anything robust. There's competition, rivalries between ethnic groups. Then you have the issues of periphery versus center,

meaning Baghdad versus the provinces. Then the other divisions. So you have some real challenges.

In brief, I wanted to give you a quick overview about some dynamics and ways to think about them, to try and understand maybe a little bit of the Sunni Arab phenomenon, and how the Sunnis might look at things, and how some of our metrics might not be quite right for measuring what's happening. If you have any questions, I'll be glad to take them.

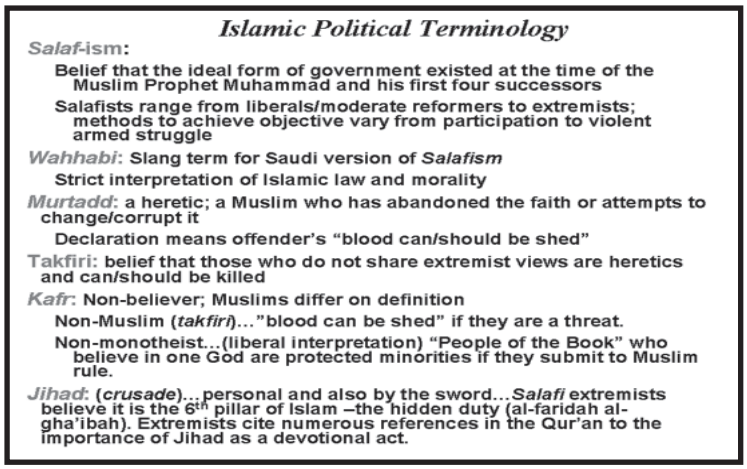

Figure 34

Day 1, Session 4 Question and Answers

Moderated by
Dr. Lawence Yates - Combat Studies Institute

Audience Member
It's a fascinating presentation you made, and you're not mirror imaging, which is great. You're looking at the society the way it is, and you're looking at it from the perspective of the Sunni Arabs. Of course, it gets a lot more complicated if you throw in also the Shi'a perspective, and then the Kurdish perspective, and that would just be extremely more complicated.

Colonel Harvey
Yes, we need to understand the environment and the players that are involved in that environment. Again, we tend to label the Kurds only as Kurds. I had many discussions with our leadership in Baghdad, because we tend to look at the Kurds and maybe we'll go down and think PUK-Talabani, and KDP-Barzani, and that's the level of analysis. And we're very comfortable with these leaders because, like Barham Salah, they speak excellent English, and so we communicate very well, and they become our interlocutors. If you travel the region up there, however, you'll find a lot of animosity and resentment toward the PUK and the KDP on the part of many, many tribal leaders and communities who themselves believe that they've been victims of these two entities. Not that it's true, but one tribal leader up there said, "You know, Barzani is just our Little Saddam." That's a reflection of how they think about the situation. So even within a given community, you have to appreciate those dynamics.

We mislabel someone like Sadr; we're very comfortable with saying Sadr's a religious guy and he's fanatic and he's this and he's that. Is he really a religious leader? He's from a religious family. What's his major orientation? Is it really religious? Theocratic? Or is he really more of an Arab nationalist? Does he have more in common with other Arab nationalists, be they Sunni or Shi'a? If that is the case, what does that mean for your choices, and how you engage him, and how you shape your IO directed at his community? If you're going to be good at "Red Teaming"—and I use Red Teaming as a means of bridging traditional intelligence, which is very descriptive and historical, traditionally, and avoids being prescriptive or predictive. So you try to bridge that traditional intelligence; you want to take that intelligence information and knowledge and awareness of the community that you're dealing with, and make it valuable and meaningful information, to support the IO, so when you have a crisis, you can provide context and meaning to help shape that IO message—substantively, as well as the mediums that it goes into.

So who's going to help the IO folks do that when they are absolutely afraid of dealing with cultural or religious issues, because of lack of understanding, so who helps do that? Who helps shape things beyond targeting, in the kinetic sense, to co-option, or building the network, so you understand the tribal fissure, so you can exploit some of these differences? Who brings that sort of meaning? Especially when you're rotating commands, and you're rotating analysts, and they arrive on the ground, unfortunately, not knowing the difference between a Shi'a and a Sunni, and you call someone a Salafist extremist when he's a Sufi. You're absolutely right—you have to have understanding—but we have major challenges.

Audience Member
What are the prospects, in your view, of federalism, and of trying to expect just a little less of the central government, and to try to help keep the Shi'a and Sunni out of each other's way a little more?

Colonel Harvey
Well, in the constitutional process, they've kept consideration of the major issues until last, and the federalism issue is a major one, and not just for the Kurds. To a degree, some elements of the Shi'a are thinking more in terms of wanting greater autonomy and control of the resources. The Sunni Arabs are against this; they want to focus on the center.

How is this going to play out? Or how does one reconcile these differences when you have all these other issues that play too? What sort of horse trading is there going to be? And can you have horse trading over such fundamental issues as federalism, resources, the role of religion, when you have elements that see this as black and white? Not that they all do, but there's enough of them in that constitutional committee. And then it has to get passed by the parliament, and then passed by provinces, and if three provinces reject it, then we're back to square one.

Audience Member
I come from an academic community, and what my colleagues are always saying, "Save our troops. Just get them out." They want to abandon it. We had someone here last year, and he said the same thing, "Just get out." He said, "Well, people said it'll be chaotic; well, what do you think we got now?" I know this is asking you to predict, and that's hard, but what would you see as the consequences if we just got out?

Colonel Harvey
Well, first of all, I want to challenge the statement that it's chaotic. Again, when one looks at the picture that I drew, one could walk away and say, "Oh, my God, I didn't think it was that bad." On the other hand, having been there and traveled a lot, and put almost thousands of miles on my SUV just driving around the country, I didn't find the country that chaotic. There's a tremendous amount of normality and prosperity and growth. Sure, they want us to leave, but most of them don't want us to leave just yet. Even a lot of the Sunni Arabs don't want us to leave just yet, as they start to recalibrate some of their calculations here.

If one was to pull out, what happens? If you just pulled out, it would be a recipe for disaster, in my mind, and you would have extreme violence, possibly leading to civil war. We could see this devolve into a fractured state that would be a sanctuary for terrorists. If you pull out more gradually, but in an accelerated way—gradually, meaning controlled, some conditions—but accelerated, so that you force their hand to take some serious decisions—because right now, they can sort of lean back and know that we're backing them up, and they're not able to stand on their own feet. So maybe we need to take the training wheels off a little more quickly to force some of these issues to come to resolution.

I am concerned that this is morphing into a general Sunni Arab insurrection, as opposed to just a minority of a minority. The firing the head of the religious endowment here the day before yesterday, or the bringing into government those few Sunnis who have no gravitas, no base of support in the Sunni Arab community, who are just a fig leaf—these actions show to some in the Sunni community that the Shi'a are not serious.

Those fence-sitters can start to go either way, and they're fearful. You could have elections and a large participation in elections, and still have an insurgency. As a matter of fact, the insurgency could move to another level.

Audience Member
I'd like to follow up, in a sense, on two things. It seems to me that the thing that underlies all of this is our desire for a unitary state in Iraq. How does the dynamic of what's going on now, what you just described, how would that change if we give up that particular sacred cow, and say, "Have three countries instead of one"?

Colonel Harvey
The way I see the future, it's best for the Sunni Arab community to have a partnership, outreach, inclusion with Shi'a Arabs like Iyad Allawi, Sadr—Sadr is an Arab nationalist, —and tribal leaders in the Shi'a community, and build the bridge based upon Arab Islamic nationalism, but not of a theocratic orientation.

But what are we offering the Sunni Arab community? We're offering them a market economy. We're telling them that they could pay for their own electricity, that they've never paid for. We're not offering them much, when you look at it from their perspective, because these are things that are alien to them, and that will cause a fundamental shift in their thinking and way of life.

Take Iyad Allawai, many of the Sunni Arab leaders that are involved in the insurgency, and those that are not but who are fencer-sitters, the Sadrites, and the Kurds, the Barham Salahs, the Barzanis—there is, in some ways, a lot of room for bridging there. But then you look at who we've empowered in Baghdad. We have Dawah—with its religious orientation linked to Iran a great deal; SCIRI, underpinned by the Badr Corps militia. You have some other religious elements tied into the United Iraqi Alliance. Then you have Chalabi, okay, who's a wild card and will go in any number of directions. But he is very anti-Ba'athist. So how do you build this bridge based upon Arab Islamic nationalism that can also have outreach to the Kurds when you've got this entity empowered in Baghdad that represents, in my mind, about 15 to 20 percent of the Shia, meaning that minority of the Shia who are deeply religious, fundalmentalists. Yes, Sistani has great sway and influence, and has kept this coalition together, but there's a lot of room for maneuver between the groups if we can break down some of the barriers. We need to build a bridge between the Arab nationalist elements.

Audience Member
What lessons have we learned from Iraq that would make things better the next time.

Colonel Harvey
Everyone talks about planning for postwar operations. What have we learned about that? And what have we learned about maintaining presence? I'll highlight just one issue. I was a member of Coalition Forces Land Component Command (CFLCC), that's the component that was responsible for land operations going into Iraq and OIF. That command departed, got its orders to leave, at the end of May 2003, and in my view, we spent the next 18 months trying to rebuild that command and control capability that we already had there with the CFLCC command. We tried to rebuild an intelligence capability. Under CFLCC, we had 780 people in the intelligence division; we had people focused on tribal issues, and we had expertise already developed—they were all sent home. We then overlaid the responsibility for this tactical, operational, strategic fight on a tired V Corps that had a country to rebuild the size of California, with no Iraqi military, no party apparatus, and no institutions—a shell of a government in place, with no architecture, no communications, no staff practices, and people that were inex-

perienced and didn't understand the interagency, didn't even know in some cases what interagency was.

So in some ways we had the wrong people, the wrong place, the wrong time. Many of the people that understood it were sent home, and we spent 18 months trying to rebuild that capability, and we didn't get it until General Casey and Multinational Forces-Iraq. I don't understand the decision—it's not for me to second guess; it's just an observation—that if you would have had better command and control, better ability to orchestrate and manage, and people that were already thinking about these things there, rather than sending them home, we might have had an ability to mitigate some of this stuff, so it didn't get out of hand. That's just one observation; take that for what it's worth.

Audience Member
So if the Iraqi army would have been kept together, would it have made a difference?

Colonel Harvey
It's not an either/or. There are many people in the regime's army that had to go. You could have done it incrementally. You could have said we're going to keep the army together, but we're not going to keep the presidential security, or the IIS. Maybe that would have worked. There are a number of different ways one could have done it, but if you're going to come in with an approach that is perceived by the Sunni Arabs as marginalizing and victimizing them, whether you meant to or not, you set conditions that others then can exploit. So would keeping the Iraqi army together have made a difference. Yes. Might we have had more difficult problems, as Mr. [Paul] Wolfowitz once said? He might very well have been right—we could have had more difficult problems. I don't know. I don't have a crystal ball. There's so many variables at work that you just don't know how any one thing done differently would have played out.

Audience Member
Communism in Eastern Europe worked for as long as it did because the communist leaders were able to politicize all aspects of life, and to get enough people to buy into communist ideology so that they either accepted it or tolerated it or whatever, and it worked, and it enabled a bad system to survive 75 years. So what are we doing to be commissars of democracy and free markets and everything that it takes to get the Iraqi people to buy into the idea of this new system is going to work, it's going to be good, they're going to benefit from it—especially the Sunnis, who are the major problem area? How are we politicizing these folks to buy into what we're trying to offer?

We have mixed results, but again, it's how do you package what you do, and then how do you sell it? We've got a willing and supportive population that has a lot of tolerance for us in a good portion of the country. Baghdad and some other areas are very problematic, in some ways. But if you succeed in Sadr City, an area of 2.5 million people, and you finally get their sewage system running for the first time ever, and if you've hooked it up to treatment plants, and if you've done that, how does one leverage a fundamentally good act like that to our gain? Does one put it out in city newspapers, flyers? Do you pay for that information to go out? Do you get Arabic spokesmen to get out and highlight it? Do you have events to highlight it? Do you get it on TV? Do you get Al Jazeera in? What do you do, and what is the message?

Maybe you want to be careful about the message, because you don't want it to look like the Shi'a are benefiting even more, because it happens to be a Shi'a area where you had a success. Or maybe you want to do that. You reinforce success by convincing the Sunnis that if they start playing ball and start coming on board, we can start investing in their area. How do you get that message out? You don't do it by having an American spokesman get up at the end of the day and say, "This is what we did." In English! You just don't get any traction that way. So much good for so little gain, in so many ways, in so much of the country. And that's for FA30 class here, the IO folks. They have the challenge, because you have to get leadership to think in those terms, and you've got to integrate it across the staff, in an effective, synchronized planning process that looks out and then figures out how to leverage information and get it into the right mediums.

Audience Member
So are we doing it successfully?

We're having success in a lot of areas. But again, it's hard to measure—it's just like it's hard to measure the effectiveness of a bomb. Now, if you look at the latest Pew research results regarding attitudes towards us in Iraq, in the Muslim community, and in North Africa and elsewhere, you know that the numbers have improved since last year. Those are fundamentally good numbers. And support for Osama bin Laden and his goals has gone down by a corresponding number.

But if you still have 36 percent of the North African Muslim community supporting Osama bin Laden, that's far too many, and how many does it take to contribute to these types of attacks like they had in London? Not very many. Still, good progress—a lot of progress in a lot of the country.

Has anybody read John Nagl's book, Learning to Eat Soup with a Knife? John Nagl, a US Army lieutenant colonel, wrote a book on insurgency lessons from Malaya and Vietnam. He took a phrase from T.E. Lawrence, "Fighting an insur-

gency is like eating soup with a knife—slow, messy, . . .” et cetera. Well, fundamentally, that’s what you have with any insurgency—it’s a slow, messy, difficult process. It’s harder for us because of the cultural barriers, and the changeover we have. I’m not even going to talk about how do we get our government to function on all cylinders, so that in Washington, D.C., you have an interagency process that clicks—that you get all the other elements of national power focused. Because it can’t be won on the military side. General Sanchez understood that. He gets a real bad rap by people, because they think he was just focused on the military “whack ‘em all”—they pop up, you whack ‘em. No. He understood the broader perspective, but he only had certain resources at his disposal, and it skewed the picture of what he was doing. He understood it, he got it—but you still need all the elements synchronized.

Thank you very much. I greatly appreciate it.

[Applause]